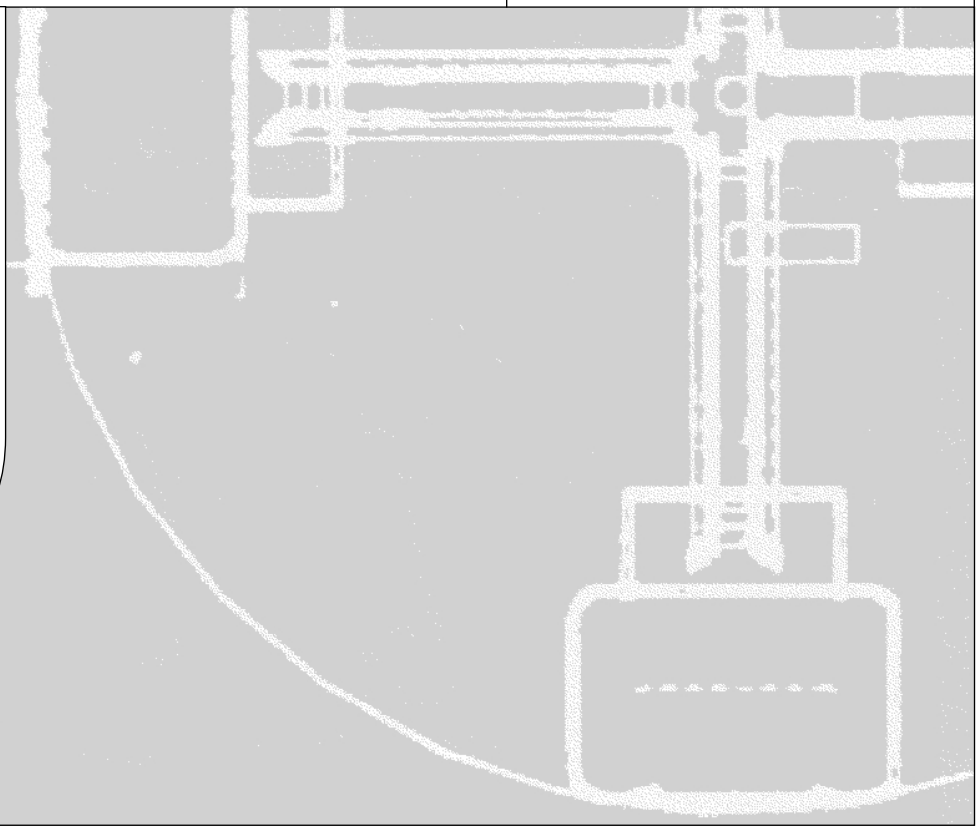
Genie®

Service Manual

Part No. 62401
Rev A1
October 2004

S™-100
S™-105
S™-120
S™-125



Important

Read, understand and obey the safety rules and operating instructions in the *Genie S-100 and Genie S-105 Operator's Manual* or the *Genie S-120 and Genie S-125 Operator's Manual* before attempting any maintenance or repair procedure.

This service manual covers the Genie S-100 and Genie S-105 and Genie S-120 and Genie S-125 models.

This manual provides detailed scheduled maintenance information for the machine owner and user. It also provides troubleshooting and repair procedures for qualified service professionals.

Basic mechanical, hydraulic and electrical skills are required to perform most procedures. However, several procedures require specialized skills, tools, lifting equipment and a suitable workshop. In these instances, we strongly recommend that maintenance and repair be performed at a Genie dealer service center.

Genie Industries has endeavored to deliver the highest degree of accuracy possible. However, continuous improvement of our products is a Genie policy. Therefore product specifications are subject to change without notice.

Readers are encouraged to notify Genie of errors and send in suggestions for improvement. All communications will be carefully considered for future printings of this and other manuals. Please write to the technical publications team in care of Genie Industries, PO Box 97030, Redmond WA 98073-0069 U.S.A.

If you have any questions, please contact Genie Industries.

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Genie Industries

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First Edition: First Printing, January 2001

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Printed on recycled paper

Printed in U.S.A.

Safety Rules

Danger

Failure to obey the instructions and safety rules in this manual, and the *Genie S-100 & Genie S-105 Operator's Manual* or the *Genie S-120 & Genie S-125 Operator's Manual* will result in death or serious injury.

Many of the hazards identified in the operator's manual are also safety hazards when maintenance and repair procedures are performed.

Do Not Perform Maintenance Unless:

- ☑ You are trained and qualified to perform maintenance on this machine.
- ☑ You read, understand and obey:
  - manufacturer's instructions and safety rules
  - employer's safety rules and worksite regulations
  - applicable governmental regulations
- ☑ You have the appropriate tools, lifting equipment and a suitable workshop.

SAFETY RULES

Personal Safety

Any person working on or around a machine must be aware of all known safety hazards. Personal safety and the continued safe operation of the machine should be your top priority.

Read each procedure thoroughly. This manual and the decals, on the machine, use signal words to identify the following:

⚠DANGER Indicates the presence of a hazard that **will** cause death or serious injury.

⚠WARNING Indicates the presence of a hazard that **may** cause death or serious injury.

⚠CAUTION Indicates the presence of a hazard that **will** or **may** cause serious injury or damage to the machine.

NOTICE Indicates special operation or maintenance information.

Be sure to wear protective eye wear and other protective clothing if the situation warrants it.

Be aware of potential crushing hazards such as moving parts, free swinging or unsecured components, and lifting or placing loads. Always wear approved steel-toed shoes.

Workplace Safety

Be sure to keep sparks, flames and lighted tobacco away from flammable and combustible materials like battery gases and engine fuels. Always have an approved fire extinguisher within easy reach.

Be sure that all tools and working areas are properly maintained and ready for use. Keep work surfaces clean and free of debris that could get into machine components and cause damage.

Be sure that your workshop or work area is properly ventilated and well lit.

Be sure any forklift, overhead crane or other lifting or supporting device is fully capable of supporting and stabilizing the weight to be lifted. Use only chains or straps that are in good condition and of ample capacity.

Be sure that fasteners intended for one time use (i.e., cotter pins and self-locking nuts) are not reused. These components may fail if they are used a second time.

Be sure to properly dispose of old oil or other fluids. Use an approved container. Please be environmentally safe.

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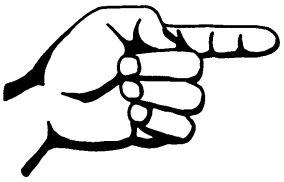

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Specifications

Machine Specifications, S-120 and S-125 Models

Stowed dimensions	S-120	S-125
Length, transport position	39 ft 11 in 12.17 m	39 ft 11 in 12.17 m
Length, stowed	42 ft 8 in 13 m	46 ft 14 m
Width, axles retracted	8 ft 6 in 259 cm	8 ft 6 in 259 cm
Width, axles extended	11 ft 6 in 351 cm	11 ft 6 in 351 cm
Height, stowed maximum	10 ft 1 in 308 cm	10 ft 1 in 308 cm
Weight	44,340 lbs 20,112 kg	44,640 lbs 20,248 kg
Ground clearance	15 3/4 in 40 cm	15 3/4 in 40 cm
Operational dimensions		
Platform height, maximum	120 ft 36.6 m	125 ft 38.1 m
Working height, maximum	126 ft 38.4 m	131 ft 39.9 m
Horizontal reach maximum	75 ft 22.9 m	80 ft 24.4 m
Maximum load capacity	750 lb 340 kg	500 lb 227 kg
Turntable tailswing, axles retracted	66 in 168 cm	66 in 168 cm
Turntable tailswing axles extended	48 in 122 cm	48 in 122 cm
Wheelbase	12 ft 366 cm	12 ft 366 cm
Turning radius, outside, axles retracted	24 ft 4 in 7.4 m	24 ft 4 in 7.4 m
Turning radius, inside, axles retracted	16 ft 4 in 4.9 m	16 ft 4 in 4.9 m
Turning radius, outside, axles extended	20 ft 8 in 6.3 m	20 ft 8 in 6.3 m
Turning radius, inside, axles extended	10 ft 1 in 3.1 m	10 ft 1 in 3.1 m
Turntable rotation (degrees)	360° continuous	
Platform rotation	160°	
Maximum allowable side force (ANSI and CSA)	150 lbs 667 N	
Maximum allowable side force (CE)	90 lbs 400 N	
Controls	12V DC proportional	
Platform dimensions		
Length	96 in 244 cm	
Width	36 in 91 cm	
Tires and wheels		
Tire size	18 x 22.5, 18 pr FF	
Tire ply rating	18	
Overall tire diameter	46.5 in 118 cm	
Wheel diameter	22.5 in 57 cm	
Wheel width	13 in 33 cm	
Wheel lugs	10 @ 3/4 -16	
Lug nut torque, dry	420 ft-lbs 569.5 Nm	
Lug nut torque, lubricated	320 ft-lbs 433.9 Nm	

SPECIFICATIONS

Fluid capacities	
Hydraulic tank capacity	55 gallons 208 liters
Hydraulic system capacity (including tank)	80 gallons 303 liters
Fuel tank capacity	40 gallons 151 liters
Airborne noise emissions Maximum sound level at normal operating workstations (A-weighted)	80 dB

Continuous improvement of our products is a Genie policy. Product specifications are subject to change without notice.

Performance Specifications, S-120 and S-125 Models

Drive speeds, maximum		
Drive speed, stowed	3 mph 40 ft/9.1 sec	4.8 km/h 12.2 m/9.1 sec
Drive speed, raised or extended	0.7 mph 40 ft/40 sec	1.1 km/h 12.2 m/40 sec
Drive speed, fully extended	0.4 mph 40 ft/70 sec	0.6 km/h 12.2 m/70 sec
Gradeability (boom stowed)		40%

Boom function speeds, maximum from platform controls	
Jib boom up (S-125 models)	28 to 32 seconds
Jib boom down (S-125 models)	28 to 32 seconds
Boom up	
Boom fully retracted	80 to 88 seconds
Boom extended to >4 ft (>1.2 m) (time between fully lowered and a fully raised position)	100 to 110 seconds
Boom extended to >80 ft (>24.4 m) (time between 53° envelope limit and a fully raised position)	50 to 55 seconds
Boom extended to >100 ft (>30.5 m) (time between 68° envelope limit and a fully raised position)	24 to 28 seconds
Boom down	
Boom fully retracted	80 to 88 seconds
Boom extended to >4 ft (>1.2 m) (time between fully raised and a fully lowered position)	100 to 110 seconds
Boom extended to >80 ft (>24.4 m) (time between fully raised and the 50° envelope limit)	50 to 55 seconds
Boom extended to >100 ft (>30.5 m) (time between fully raised and the 65° envelope limit)	24 to 28 seconds

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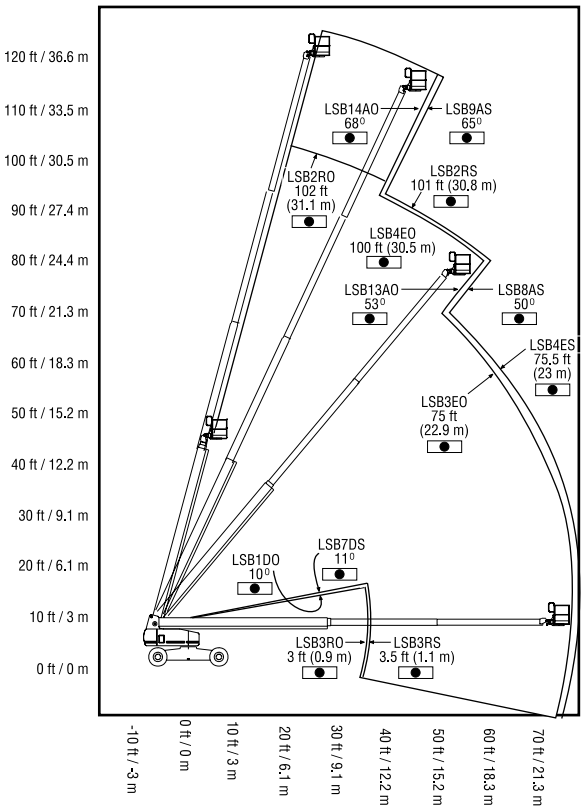
Boom extend	
horizontal, 0 to 80 ft (0 to 24.4 m)	75 to 83 seconds
vertical, 0 to 120 ft (0 to 36.6 m)	170 to 190 seconds
Boom retract	
horizontal, 80 ft to 0 (24.4 m to 0)	75 to 83 seconds
vertical, 120 ft to 0 (36.6 m to 0)	170 to 190 seconds
Turntable rotate, 360° boom horizontal and fully retracted	170 to 190 seconds
Turntable rotate, 360° boom horizontal and extended >0 ft (>0 m)	285 to 315 seconds
Turntable rotate, 360° boom horizontal and extended >80 ft (>24.4 m)	490 to 540 seconds
Platform rotate, 160°	18 to 22 seconds



Machine Specifications, S-100 and S-105 Models

Stowed dimensions	**S-100**	**S-105**
Length, transport position	39 ft 11 in 12.17 m	39 ft 11 in 12.17 m
Length, stowed	42 ft 8 in 13 m	46 ft 14 m
Width, axles retracted	8 ft 6 in 259 cm	8 ft 6 in 259 cm
Width, axles extended	11 ft 6 in 351 cm	11 ft 6 in 351 cm
Height, stowed maximum	10 ft 1 in 308 cm	10 ft 1 in 308 cm
Weight	39,700 lbs 18,007 kg	40,000 lbs 18,143 kg
Ground clearance	15 1/2 in 39 cm	15 1/2 in 39 cm
Operational dimensions		
Platform height, maximum	100 ft 30.5 m	105 ft 32 m
Working height, maximum	106 ft 32.3 m	111 ft 33.8 m
Horizontal reach maximum	75 ft 22.9 m	80 ft 24.4 m
Maximum load capacity	750 lb 340 kg	500 lb 227 kg
Turntable tailswing, axles retracted	66 in 168 cm	66 in 168 cm
Turntable tailswing axles extended	48 in 122 cm	48 in 122 cm
Wheelbase	12 ft 366 cm	12 ft 366 cm
Turning radius, outside, axles retracted	24 ft 4 in 7.4 m	24 ft 4 in 7.4 m
Turning radius, inside, axles retracted	16 ft 4 in 4.9 m	16 ft 4 in 4.9 m

SPECIFICATIONS

Turning radius, outside, axles extended	20 ft 8 in 6.3 m	20 ft 8 in 6.3 m
Turning radius, inside, axles extended	10 ft 1 in 3.1 m	10 ft 1 in 3.1 m
Turntable rotation (degrees)		360° continuous
Platform rotation		160°
Maximum allowable side force (ANSI and CSA)		150 lbs 667 N
Maximum allowable side force (CE)		90 lbs 400 N
Controls		12V DC proportional

Platform dimensions	
Length	96 in 244 cm
Width	36 in 91 cm

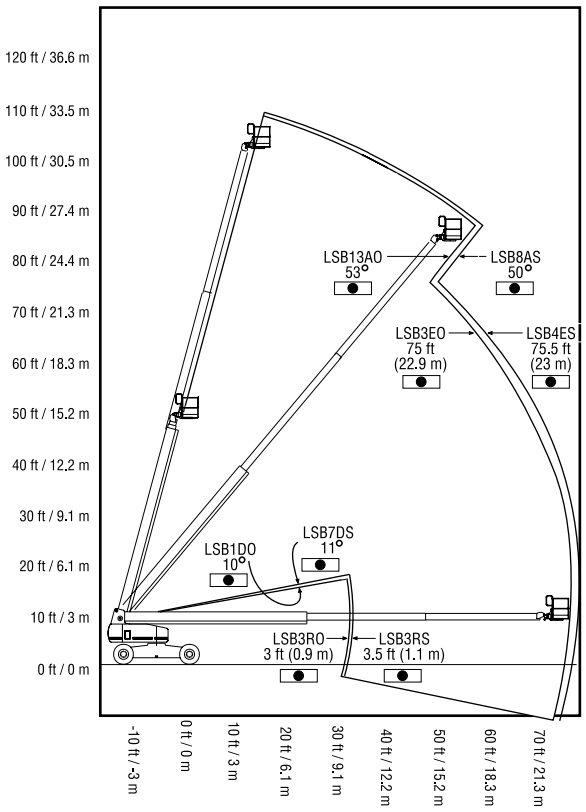
Tires and wheels	
Tire size	15 x 22.5, 18 pr FF
Tire ply rating	18
Overall tire diameter	43.1 in 109.5 cm
Wheel diameter	22.5 in 57 cm
Wheel width	11.75 in 30 cm
Wheel lugs	10 @ 3/4 -16
Lug nut torque, dry	420 ft-lbs 569.5 Nm
Lug nut torque, lubricated	320 ft-lbs 433.9 Nm

Fluid capacities	
Hydraulic tank capacity	55 gallons 208 liters
Hydraulic system capacity (including tank)	80 gallons 303 liters
Fuel tank capacity	40 gallons 151 liters
Airborne noise emissions Maximum sound level at normal operating workstations (A-weighted)	80 dB

Continuous improvement of our products is a Genie policy. Product specifications are subject to change without notice.

Performance Specifications, S-100 and S-105 Models

Drive speeds, maximum		
Drive speed, stowed	3 mph 40 ft/9.1 sec	4.8 km/h 12.2 m/9.1 sec
Drive speed, raised or extended	0.7 mph 40 ft/40 sec	1.1 km/h 12.2 m/40 sec
Drive speed, fully extended	0.4 mph 40 ft/70 sec	0.6 km/h 12.2 m/70 sec
Gradeability (boom stowed)		42%
Boom function speeds, maximum from platform controls		
Jib boom up (S-105 models)		28 to 32 seconds
Jib boom down (S-105 models)		28 to 32 seconds
Boom up		
Boom fully retracted		80 to 88 seconds
Boom extended to >4 ft (>1.2 m) (time between fully lowered and a fully raised position)		100 to 110 seconds
Boom extended to >80 ft (>24.4 m) (time between 53° envelope limit and a fully raised position)		50 to 55 seconds
Boom down		
Boom fully retracted		80 to 88 seconds
Boom extended to >4 ft (>1.2 m) (time between fully raised and a fully lowered position)		100 to 110 seconds
Boom extended to >80 ft (>24.4 m) (time between fully raised and the 50° envelope limit)		50 to 55 seconds
Boom extend, boom fully raised 0 to 100 ft (0 to 30.5 m)		120 to 140 seconds
Boom retract, boom fully raised 100 ft to 0 (30.5 m to 0)		120 to 140 seconds
Turntable rotate, 360° boom horizontal and fully retracted		170 to 190 seconds
Turntable rotate, 360° boom horizontal and extended >0 ft (>0 m)		285 to 315 seconds
Turntable rotate, 360° boom fully raised and extended >80 ft (>24.4 m)		490 to 540 seconds
Platform rotate, 160°		18 to 22 seconds



SPECIFICATIONS

Hydraulic Specifications

Hydraulic fluid	Dexron equivalent
Drive pump	
Type: bi-directional, variable displacement piston pump	
Displacement @ 2350 rpm	28 gpm 106 L/min
Maximum drive pressure	4250 psi 293 bar
Charge pump	
Type: gear	
Displacement @ 2350 rpm	5.2 gpm 19.7 L/min
Charge pump pressure	290 psi 20 bar
Function manifold	
Function relief valve pressure	2600 psi 179.3 bar
Boom extend relief valve pressure	1800 psi 124.1 bar
Four wheel steer and axle extend/retract manifold	
Steer/axle extend flow regulator	3 gpm 11.4 L/min
Drive manifold	
Brake relief pressure	250 psi 17.2 bar
Drive motors	
Displacement per revolution, variable	0.73 to 2.75 cu in 12 cc to 45 cc

Function pump	
Type: two-section gear pump	
Displacement (Pump 1)	1.75 cu in 28.7 cc
Displacement @ 2350 rpm (Pump 1)	17.8 gpm 67.4 L/min
Displacement (Pump 2)	1 cu in 16.4 cc
Displacement @ 2350 rpm (Pump 2)	10.2 gpm 38.5 L/min
Auxiliary pump	
Type: two section gear pump	
Displacement (Section 1)	0.159 cu in 2.61 cc
Displacement @ 2687 rpm (Section 1)	1.85 gpm 7 L/min
Displacement (Section 2)	0.051 cu in 0.84 cc
Displacement @ 2687 rpm (Section 2)	0.59 gpm 2.2 L/min
Auxiliary pump relief pressure Section 1 Section 2	 2500 psi 172.4 bar 3000 psi 206.8 bar
Hydraulic filters	
High pressure filter	B3-200
High pressure filter bypass pressure	100 psi 6.9 bar
Medium pressure filter	B3-200
Medium pressure filter bypass pressure	87 psi 6 bar
Hydraulic tank circuit return line filter	10 micron with 25 psi (1.7 bar) bypass
Drive motor case drain filter	10 micron

SPECIFICATIONS

Perkins Engine 1004-42

Displacement	258 cu in 4.23 liters
Number of cylinders	4
Bore & stroke	4.06 x 5 inches 103.1 x 127 mm
Horsepower	81 @ 2200 rpm
Firing order	1 - 3 - 4 - 2
Compression ratio	18.5:1
Compression pressure pressure (psi or bar) of the lowest cylinder must be at least 75% of the highest cylinder.	
Low idle - no load	1300 rpm
High idle - no load	2350 rpm
Valve clearance, cold	
Intake	0.008 in 0.20 mm
Exhaust	0.018 in 0.45 mm
Lubrication system	
Oil pressure	51 psi 3.45 bar
Oil capacity (including filter)	8.9 quarts 8.4 liters
Oil viscosity requirements	
below 32°F / 0°C	0W
-13°F to 68°F / -25°C to 20°C	5W-20
10°F to 104°F / -12°C to 40°C	10W-30
14°F to 122°F / -10°C to 50°C	15W-40
above 23°F / -5°C	20W-50
Engine oil should have properties of API classification CF4 grade OR ACEA classification E3.	

Injection system	
Injection pump make	Zexel
Injector opening pressure	2204 psi 152 bar
Fuel requirement	
Summer grade	diesel number 2-D
Winter grade	At operating temperatures below 32°F (0°C), use a special winter fuel.
Alternator output	55A, 12V
Battery - System	
Type	12V, Group 27TM
Quantity	1
AH rating	109AH
Cold cranking ampere	630A
Reserve capacity @ 25A rate	160 minutes
Battery - Engine starting	
Type	12V, Group 4D
Quantity	1
AH rating	190AH
Cold cranking ampere	1020A
Reserve capacity @ 25A rate	325 minutes
Cooling system	
Engine capacity	9.5 quarts 9 liters
System capacity	20 quarts 18.9 liters
Fan belt deflection	3/8 to 1/2 inch 9 to 12 mm

SPECIFICATIONS

Cummins Engine B3.9L

Displacement	238 cu in 3.9 liters
Number of cylinders	4
Bore and stroke	4.02 x 4.72 inches 102 x 120 mm
Horsepower	75 @ 2200 rpm
Firing order	1 - 3 - 4 - 2
Compression ratio	16.5:1
Compression pressure pressure (psi or bar) of the lowest cylinder must be at least 75% of the highest cylinder.	
Low idle - no load	1300 rpm
High idle - no load	2350 rpm
Valve clearance, cold	
Intake	0.010 in 0.254 mm
Exhaust	0.020 in 0.508 mm
Lubrication system	
Oil pressure	50 psi 3.45 bar
Oil capacity (including filter)	9.5 quarts 9 liters
Oil viscosity requirements	
below 68°F / 20°C	5W-30
-10° to 68°F / -23° to 20°C	10W-30
above 15°F / -9°C	15W-40
Use oils meeting API classification CE (labeled CE/SG).	

Injection system	
Injection pump make	Bosch
Injection pump pressure	5500 psi 379.2 bar
Injector opening pressure	3480 psi 240 bar
Fuel requirement	diesel number 2-D
Alternator output	63A, 12V
Battery - System	
Type	12V, Group 27TM
Quantity	1
AH rating	109AH
Cold cranking ampere	630A
Reserve capacity @ 25A rate	160 minutes
Battery - Engine starting	
Type	12V, Group 4D
Quantity	1
AH rating	190AH
Cold cranking ampere	1020A
Reserve capacity @ 25A rate	325 minutes
Cooling system	
Engine capacity	8.8 quarts 8.3 liters
System capacity	20 quarts 18.9 liters

SPECIFICATIONS

Deutz Engine F4L 913

Displacement	249.3 cu in 4.086 liters
Number of cylinders	4
Bore and stroke	4.02 x 4.92 inches 102 x 125 mm
Horsepower	77 @ 2200 rpm
Firing order	1 - 3 - 4 - 2
Compression ratio	18:1
Compression pressure pressure (psi or bar) of the lowest cylinder must be at least 75% of the highest cylinder.	
Low idle - no load	1300 rpm
High idle - no load	2350 rpm
Valve clearance, cold	
Intake	0.006 in 0.15 mm
Exhaust	0.006 in 0.15 mm
Lubrication system	
Oil pressure	40 to 60 psi 2.75 to 4.14 bar
Oil capacity (including filter)	14.3 quarts 13.5 liters
Oil viscosity requirements	
below 60°F / 15.5°C (synthetic)	5W-30
-10°F to 90°F / -23°C to 32°C	10W-40
above -4°F / -34°C	15W-40
Engine oil should have properties of API classification CC/SE or CC/SF grades OR ACEA classification E1-96.	

Injection system	
Injection pump make	IMSA
Injection pump pressure	8702 psi 600 bar
Injector opening pressure	3626 psi 250 bar
Fuel requirement	diesel number 2-D
Alternator output	55A, 12V
Battery - System	
Type	12V, Group 27TM
Quantity	1
AH rating	109AH
Cold cranking ampere	630A
Reserve capacity @ 25A rate	160 minutes
Battery - Engine starting	
Type	12V, Group 4D
Quantity	1
AH rating	190AH
Cold cranking ampere	1020A
Reserve capacity @ 25A rate	325 minutes
Fan belt deflection	3/8 to 1/2 inch 9 to 12 mm

SPECIFICATIONS

Hydraulic Hose and Fitting Torque Specifications

Your machine is equipped with Parker Seal-Lok® O-ring face seal fittings and hose ends. Machines that utilize Parker Seal-Lok® O-ring face seal hoses and fittings require that the fittings and hose ends be torqued to specification when they are removed and installed or when new hoses or fittings are installed.

Hydraulic Hose and Fitting Torque Specifications

SAE O-ring Boss Port - tube fitting				**Seal-Lok® -** hose end		
SAE Dash Size	Installing into...	ft. lbs.	Nm	SAE Dash Size	ft. lbs.	Nm
-4	Aluminum	11	14.9	-4	18	24.4
	Steel	16	21.7	-6	27	36.6
-6	Aluminum	23	31.2	-8	40	54.2
	Steel	35	47.5	-10	63	85.4
-8	Aluminum	40	54.2	-12	90	122
	Steel	60	81.3	-16	120	162.7
-10	Aluminum	69	93.6	-20	140	190
	Steel	105	142.4	-24	165	223.7
-12	Aluminum	93	126.1			
	Steel	140	190			
-16	Aluminum	139	188.5			
	Steel	210	284.7			
-20	Aluminum	172	233.2			
	Steel	260	352.5			
-24	Aluminum	208	282			
	Steel	315	427.1			

Torque Procedure

1 Replace the O-ring. The O-ring must be replaced anytime the seal has been broken. The O-ring cannot be re-used if the fitting or hose end has been tightened beyond finger tight.

NOTICE The O-rings used in the Parker Seal Lok® fittings and hose ends are custom-size O-rings. They are not standard SAE size O-rings. They are available in the O-ring field service kit (Genie part number 49612).

2 Lubricate the O-ring before installation.

3 Be sure that the face seal O-ring is seated and retained properly.

4 Position the tube and nut squarely on the face seal end of the fitting and tighten the nut finger tight.

5 Tighten the nut or fitting to the appropriate torque per given size as shown in the table above.

6 Operate all machine functions and inspect the hoses and fittings and related components to be sure that there are no leaks.

Theory of Operation

Power Source

The Genie S-100, S-105, S-120 and S-125 are powered by one of three diesel engines: the Cummins B3.9L, the Deutz F4L 913 and the Perkins 1004-42.
Auxiliary power is supplied by a hydraulic pump powered by a 12V battery.

Hydraulic System

All machine functions are performed by the hydraulic system. The hydraulic system can be divided into two groups: Boom and Steer/Axle functions and Drive functions.

Boom and Steer/Axle functions are powered by two-section gear pumps, rated at 17 gpm (64.4 L/min) and 10 gpm (37.9 L/min). When the engine is running, these pumps supply hydraulic fluid under pressure to function manifolds, where the directional and flow control valves are located. To protect from over-pressurization of the systems, each manifold is provided with a pressure relief valve. The Steer and Axle extend/retract manifold relief valve is set at 3000 psi (206.8 bar); the Function manifold relief valve is set at 2600 psi (179.3 bar); the Platform manifold relief valve is located in the Distribution manifold and is set at 3000 psi (206.8 bar).

Drive functions are powered by a bi-directional, variable displacement piston pump rated at 28 gpm (106 L/min) @ 2350 rpm. Two internal 4250 psi (293 bar) relief valves are used to prevent over-pressurization of the closed loop drive system.

The boom lift cylinder, boom extend cylinders, platform leveling slave cylinder, platform rotator and jib boom cylinder (S-105 and S-125 models) incorporate counterbalance valves to prevent movement in the event of a hydraulic line failure.

A regeneration circuit is used to increase the performance of the primary boom extension function. This circuit transfers hydraulic fluid from one end of the primary cylinder into the other end when the cylinder is extending or retracting.

The auxiliary pump is a two-section gear pump. One section is rated at 1.85 gpm (7 L/min) and the other is rated at 0.59 gpm (2.2 L/min).
The 1.7 gpm (7 L/min) section is supplied with a 2500 psi (172.4 bar) relief valve and the 0.59 gpm (2.2 L/min) section is supplied with a 3000 psi (206.8 bar) relief valve.

Electrical System

Two separate 12V batteries are used for this system. The larger, Group 4D, battery is used to start the engine and power the auxiliary pump. The smaller, Group 31, battery is used to power the three Electronic Control Modules (ECM's) which manage boom functions and engine controls. The batteries are charged through a common engine driven alternator. A battery separator is used to charge the smaller battery before charging the larger battery. The control system is protected by two circuit breakers that may be manually reset.

THEORY OF OPERATION

Service Bypass/Recovery Key Switch

The Service Bypass/Recovery key switch is only to be used by properly trained service personnel.

When the Service Bypass/Recovery key switch is turned to the **service bypass** position, the boom can be raised while the axles are retracted. This feature of the machine is especially helpful for storage purposes or when loading the machine for transport. When the boom is raised with the axles retracted, the boom cannot be rotated past either circle-end wheel.

When the Service Bypass/Recovery key switch is turned and held to the **recovery** position, the auxiliary power unit will turn on and fully retract the boom, and then lower the boom to a stowed position. This feature of the machine is especially helpful if the operator in the platform cannot lower the boom, if the platform controls become inoperative or for returning the machine to a safe position when the safety switches have been tripped.

Machine Controls

Three ECMs manage the boom functions. They are located at the turntable (ground controls or TCON), the platform (platform controls or PCON) and the drive chassis (drive chassis controller or DCON). Communication between the controllers is maintained via a high speed data bus (CAN bus). For example, steering inputs from PCON are sent to DCON via the high speed data bus using multiplexed signals.

A series of proximity switches and mechanical limit switches provide information to the controllers. These proximity and mechanical switches maintain and define the safe operating parameters of the machine. In addition, there is a back-up safety system using mechanical limit switches which will cut power to selected portions of the controllers should the operational system fail to operate properly.

The ground controls (TCON) have membrane operated switches. They are non-tactile touch switches for greater durability. When one button is pressed there is an audible beep indicating operation. In addition, there is a display on the ground control box that is used to show fault codes, engine condition, machine status and setup, and the display language selected. Boom speeds, turntable rotation and ramp rates are adjustable. Also, various options and operating limitations can be programmed. For example, the boom extension can be limited to 80 ft (24.4 m) or 100 ft (30.5 m).

The platform controls (PCON) has three joystick controllers for operational control. Drive and steer functions are controlled through one dual-axis joystick, boom up/down and turntable rotate functions are controlled through another dual-axis joystick, and the boom extend/retract functions are controlled through a single axis joystick. Standard toggle switches are used to control the platform level up/down, platform rotate and jib boom up/down functions (S-105 and S-125 models). Membrane type switches are used to select the various steering and operating modes.

THEORY OF OPERATION

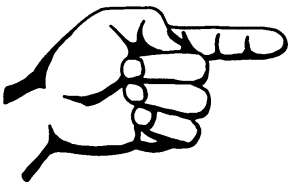
The drive chassis controller (DCON) has no operator accessible controls. The various steering controls, axle status, brake and motor speed is managed by this controller. There are status LED's on this module to indicate power, data link communications, system fault and sensor power.

Platform leveling is accomplished with electrohydraulic controls. An angle sensor is mounted on the platform rotator which senses the level of the platform. This signal is processed by PCON and sent to TCON using the data bus. The signal from the tilt sensor on the turntable is compared to the PCON signal and adjustments are made to level the platform.

For safety, machine drive speed is reduced relative to the steer angle of the wheels and boom length.

Steering is accomplished using hydraulic cylinders at each wheel. Correct steering geometry is maintained through the use of four steering sensors, one at each wheel. Steering angles are sent from the primary steering sensor to DCON and the appropriate adjustments are made to the other three wheels to correspond with the steer mode selected. If the machine is equipped with four wheel steering, there are four steering modes available: 2 wheel front steer, 2 wheel rear steer, 4 wheel coordinated steer and crab steer. Having independent control over each wheel allows the machine to determine the correct wheel geometry in each steering mode.

NOTICE Washing electronic components is not suggested. Instead, use low pressure compressed air to remove debris from these components.



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Scheduled Maintenance Procedures

Observe and Obey:

- ☑ Maintenance inspections shall be completed by a person trained and qualified on the maintenance of this machine.
- ☑ Scheduled maintenance inspections shall be completed daily, quarterly, semi-annually, annually and every 2 years as specified on the *Maintenance Inspection Report.*

⚠WARNING Failure to perform each procedure as presented and scheduled could result in death, serious injury or substantial damage.

- ☑ Immediately tag and remove from service a damaged or malfunctioning machine.
- ☑ Repair any machine damage or malfunction before operating the machine.
- ☑ Keep records on all inspections for three years.
- ☑ Machines that have been out of service for a period longer than 3 months must complete the quarterly inspection.
- ☑ Unless otherwise specified, perform each maintenance procedure with the machine in the following configuration:
  - Machine parked on a flat, level surface
  - Boom in stowed position
  - Turntable rotated with the boom between the circle-end (yellow arrow) wheels
  - Turntable secured with the turntable rotation lock
  - Key switch in the OFF position with the key removed
  - Wheels chocked

About This Section

This section contains detailed procedures for each scheduled maintenance inspection.

Each procedure includes a description, safety warnings and step-by-step instructions.

Symbols Legend

Safety alert symbol—used to alert personnel to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

⚠DANGER Red—used to indicate the presence of an imminently hazardous situation which, if not avoided, **will** result in death or serious injury.

⚠WARNING Orange—used to indicate the presence of a potentially hazardous situation which, if not avoided, **could** result in death or serious injury.

⚠CAUTION Yellow with safety alert symbol—used to indicate the presence of a potentially hazardous situation which, if not avoided, **may** cause minor or moderate injury.

CAUTION Yellow without safety alert symbol—used to indicate the presence of a potentially hazardous situation which, if not avoided, **may** result in property damage.

NOTICE Green—used to indicate operation or maintenance information.

⊙ Indicates that a specific result is expected after performing a series of steps.

SCHEDULED MAINTENANCE PROCEDURES

Maintenance Symbols Legend

NOTICE The following symbols have been used in this manual to help communicate the intent of the instructions. When one or more of the symbols appear at the beginning of a maintenance procedure, it conveys the meaning below.

Indicates that tools will be required to perform this procedure.

Indicates that new parts will be required to perform this procedure.

Indicates that a cold engine will be required to perform this procedure.

Indicates that a warm engine will be required to perform this procedure.

Indicates that dealer service will be required to perform this procedure.

Maintenance Schedule

There are five types of maintenance inspections that must be performed according to a schedule—daily, quarterly, six months, annual, and two year. The *Scheduled Maintenance Procedures Section* and the *Maintenance Inspection Report* have been divided into five subsections—A, B, C, D and E. Use the following chart to determine which group(s) of procedures are required to perform a scheduled inspection.

Inspection	Table or Checklist
Daily or every 8 hours	A
Quarterly or every 250 hours	A + B
Semi-annually or every 500 hours	A + B + C
Annual or every 1000 hours	A + B + C + D
Two year or every 2000 hours	A + B + C + D + E

Maintenance Inspection Report

The maintenance inspection report contains checklists for each type of scheduled inspection.

Make copies of the *Maintenance Inspection Report* to use for each inspection. Store completed forms for three years.

Maintenance Inspection Report

Model

Serial number

Date

Hour meter

Machine owner

Inspected by (print)

Inspector signature

Inspector title

Inspector company

Instructions

- Make copies of this report to use for each inspection.
- Select the appropriate checklist(s) for the type of inspection to be performed.

☐	**Daily or 8 hour Inspection:**	**A**
☐	**Quarterly or 250 hour Inspection:**	**A+B**
☐	**Semi-annual or 500 hour Inspection:**	**A+B+C**
☐	**Annual or 1000 hour Inspection:**	**A+B+C+D**
☐	**2 Year or 2000 hour Inspection:**	**A+B+C+D+E**

- Place a check in the appropriate box after each inspection procedure is completed.
- Use the step-by-step procedures in this section to learn how to perform these inspections.
- If any inspection receives an “N”, tag and remove the machine from service, repair and re-inspect it. After repair, place a check in the “R” box.

Legend

Y = yes, acceptable

N = no, remove from service

R = repaired

Comments

Checklist A	Y	N	R
A-1 Manuals			
A-2 Decals and placards			
A-3 Damage and loose or missing parts			
A-4 Engine oil level			
A-5 Engine coolant level - Liquid cooled models			
A-6 Engine belt(s) - Cummins models			
A-7 Engine cooling fan - Liquid cooled models			
A-8 Drain inline fuel filter/water separator			
A-9 Inspect air filter			
A-10 Fuel leaks			
A-11 Hydraulic oil level			
A-12 Hydraulic leaks			
A-13 Hydraulic filter condition indicators			
A-14 Platform and ground controls			
A-15 Auxiliary power			
A-16 Tilt sensor and alarm			
A-17 Operating envelope			
Perform after 40 hours:			
A-18 Perform 30 day service			
A-19 Engine fasteners - Deutz models			
Perform every 125 hours:			
A-20 Batteries			

Checklist B	Y	N	R
B-1 Check radiator - Liquid cooled models			
B-2 Oil cooler and fins - Deutz models			
B-3 Engine belt(s) - Deutz and Perkins models			
B-4 Replace inline fuel filter/water separator			
B-5 Replace air filter			
B-6 Air intake system			
B-7 Exhaust system			
B-8 Hydraulic tank return filters			
B-9 Hydraulic tank breather filter			
B-10 Medium and high pressure filters			
B-11 Electrical wiring			
B-12 Brake configuration			
B-13 Tires and wheels			
B-14 Drive hub oil level			
B-15 Engine RPM			
B-16 Key switches			
B-17 Emergency Stop			
B-18 Ground control override			
B-19 Safety envelope			
B-20 Platform self leveling			
B-21 Horn			
B-22 Foot switch			
B-23 Engine idle select			
B-24 Drive enable system			
B-25 Drive brakes			
B-26 Drive speed - stowed			
B-27 Drive speed - raised or extended			
B-28 Alarm package			
B-29 Engine oil and filter - Cummins models			
B-30 Fuel tank cap vent			
B-31 Hydraulic oil analysis			

MAINTENANCE INSPECTION REPORT

Model

Serial number

Date

Hour meter

Machine owner

Inspected by (print)

Inspector signature

Inspector title

Inspector company

Instructions

- Make copies of this report to use for each inspection.
- Select the appropriate checklist(s) for the type of inspection to be performed.

☐	**Daily or 8 hour Inspection: A**
☐	**Quarterly or 250 hour Inspection: A+B**
☐	**Semi-annual or 500 hour Inspection: A+B+C**
☐	**Annual or 1000 hour Inspection: A+B+C+D**
☐	**2 Year or 2000 hour Inspection: A+B+C+D+E**

- Place a check in the appropriate box after each inspection procedure is completed.
- Use the step-by-step procedures in this section to learn how to perform these inspections.
- If any inspection receives an “N”, tag and remove the machine from service, repair and re-inspect it. After repair, place a check in the “R” box.

Legend

Y = yes, acceptable

N = no, remove from service

R = repaired

Comments

Checklist C	**Y**	**N**	**R**
Refer to Table C			
C-1 Valves - Deutz models			
C-2 Fuel pump strainer - Perkins models			
C-3 Fuel filter element - Perkins and Cummins			
C-4 Engine oil and filter - Deutz and Perkins			
C-5 Check the coolant - Liquid cooled models			
C-6 Boom extend/retract cables			

Checklist D	**Y**	**N**	**R**
Refer to Table D			
D-1 Boom wear pads			
D-2 Axle wear pads			
D-3 Free-wheel configuration			
D-4 Turntable bearing bolts			
D-5 Turntable gear backlash			
D-6 Grease rotation bearing			
D-7 Drive hub oil			
D-8 Engine Belt(s) - Cummins models			
D-9 Fuel filter - Deutz models			
D-10 Valves - Cummins and Perkins			

Checklist E	**Y**	**N**	**R**
Refer to Table E			
E-1 Hydraulic oil			
E-2 Engine coolant- Liquid cooled models			
E-3 Fuel hoses			
E-4 Valves - Cummins models			
Perform every 3000 hours:			
E-5 Fuel injectors- Deutz models			
Perform every 5 years:			
E-6 Remove and inspect boom extend/ retract cables			

Table A Procedures

A-1
Inspect the Manuals

Maintaining the operator's and safety manuals in good condition is essential to safe machine operation. Manuals are included with each machine and should be stored in the container provided in the platform. An illegible or missing manual will not provide safety and operational information necessary for a safe operating condition.

1 Check to be sure that the storage container is present and in good condition.

2 Check to make sure that the operator's, responsibilities and safety manuals are present and complete in the storage container in the platform.

3 Examine the pages of each manual to be sure that they are legible and in good condition.

4 Always return the manuals to the storage container after use.

NOTICE Contact your authorized Genie distributor or Genie Industries if replacement manuals are needed.

A-2
Inspect the Decals and Placards

Maintaining all of the safety and instructional decals and placards in good condition is mandatory for safe machine operation. Decals alert operators and personnel to the many possible hazards associated with using this machine. They also provide users with operation and maintenance information. An illegible decal will fail to alert personnel of a procedure or hazard and could result in unsafe operating conditions.

1 Refer to the *Decals* section in the *Genie S-100 & Genie S-105 Operator's Manual* or the *Genie S-120 & Genie S-125 Operator's Manual* and use the decal list and illustrations to determine that all decals and placards are in place.

2 Inspect all decals for legibility and damage. Replace any damaged or illegible decal immediately.

NOTICE Contact your authorized Genie distributor or Genie Industries if replacement decals are needed.

TABLE A PROCEDURES

A-3
Inspect for Damage and Loose or Missing Parts

Daily machine condition inspections are essential to safe machine operation and good machine performance. Failure to locate and repair damage, and discover loose or missing parts may result in an unsafe operating condition.

1 Visually inspect the entire machine for damage and improperly installed or missing parts including:

- · Electrical components, wiring and electrical cables
- · Hydraulic hoses, fittings, cylinders and manifolds
- · Fuel and hydraulic tanks
- · Drive and turntable motors and drive hubs
- · Boom and axle wear pads
- · Dents or damage to machine
- · Tires and wheels
- · Engine and related components
- · Limit switches and horn
- · Alarms and beacon (if equipped)
- · Nuts, bolts and other fasteners
- · Platform entry mid-rail or gate
- · Cracks in welds or structural components
- · Compartment covers and latches

A-4
Check the Engine Oil Level

Maintaining the proper engine oil level is essential to good engine performance and service life. Operating the machine with an improper oil level can damage engine components.

NOTICE Check the oil level with the engine off.

1 Check the engine oil dipstick. Add oil as needed.

Cummins models:
⊙ Result: The oil level should be within the "L" and "H" marks on the dipstick.

Deutz models:
⊙ Result: The oil level should be within the two marks on the dipstick.

Perkins models:
⊙ Result: The oil level should be within the two notches on the dipstick.

Cummins B3.9L Engine Oil capacity (including filter)	11.5 quarts 10.9 liters

Cummins B3.9L Engine Engine oil viscosity requirements	
below 68°F / 20°C	5W-30
-13° to 68°F / -25° to 20°C	10W-30
above 15°F / -9°C	15W-40

Use oils meeting API classification CE (labeled CE/SG).

TABLE A PROCEDURES

Deutz F4L 913 Engine **Oil capacity (including filter)**	14.3 quarts 13.5 liters

Deutz F4L 913 Engine **Engine oil viscosity requirements**	
below 60°F / 15.5°C (synthetic)	5W-30
-10°F to 90°F / -23°C to 32°C	10W-40
above -4°F / -34°C	15W-40
Engine oil should have properties of API classification CC/SE or CC/SF grades OR ACEA classification E1-96.	

Perkins 1004-42 Engine **Oil capacity (including filter)**	8.9 quarts 8.4 liters

Perkins 1004-42 Engine **Engine oil viscosity requirements**	
below 32°F / 0°C	0W
-13°F to 68°F / -25°C to 20°C	5W-20
10°F to 104°F / -12°C to 40°C	10W-30
14°F to 122°F / -10°C to 50°C	15W-40
above 23°F / -5°C	20W-50
Engine oil should have properties of API classification CF4 grade OR ACEA classification E3.	

A-5
Check the Engine Coolant Level - Liquid Cooled Models

Maintaining the engine coolant at the proper level is essential to engine service life. Improper coolant level will affect the engine's cooling capability and can damage engine components. Daily checks will allow the inspector to identify changes in coolant level that might indicate cooling system problems.

1 Check the fluid level in the coolant recovery tank. Add fluid as needed.

⊙ Result: The fluid level should be in the NORMAL range.

⚠WARNING Bodily injury hazard. Fluids in the radiator are under pressure and extremely hot. Use caution when removing cap and adding fluids.

TABLE A PROCEDURES

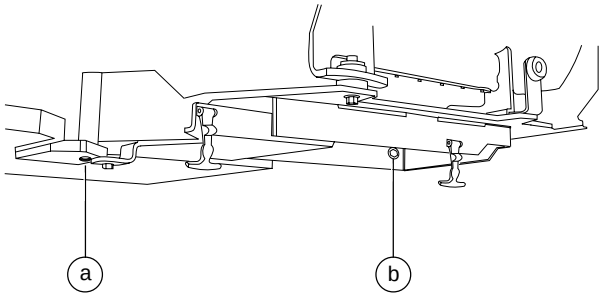
A-6
Check the Engine Belt(s) - Cummins Models

Maintaining the engine belt(s) is essential to good engine performance and service life. The machine will not operate properly with a loose or defective belt(s) and continued use may cause component damage.

⚠WARNING Bodily injury hazard. Do not inspect while the engine is running. Remove the key to secure from operation.

⚠CAUTION Bodily injury hazard. Beware of hot engine components. Contact with hot engine components may cause severe burns.

1 Remove the engine pivot plate retaining fastener. Swing the engine pivot plate out away from the machine.



a engine pivot plate anchor hole
b engine pivot plate retaining fastener

2 Locate the engine pivot plate anchor hole at the pivot end of the engine pivot plate.

3 Install the bolt that was just removed into the anchor hole to secure the engine pivot plate from moving.

⚠WARNING Crushing hazard. Failure to install the bolt into the engine pivot plate to secure it from moving could result in death or serious injury.

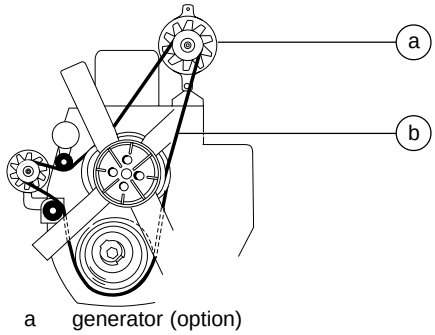
4 Inspect the engine belt for:

- Cracking
- Glazing
- Separation
- Breaks

5 Replace the belt if any damage is found. See D-8, *Inspect the Engine Belt(s).*

6 Inspect the generator belt (if equipped) for:

- Cracking
- Glazing
- Separation
- Breaks



a generator (option)
b generator belt

7 Replace the belt if any damage is found. See D-8, *Inspect the Engine Belt(s).*

NOTICE Cummins engines are equipped with a serpentine belt and incorporate a self-adjusting pulley tensioner. No adjustment is required.

8 Remove the engine pivot plate retaining fastener from the engine pivot plate anchor hole at the pivot end of the engine pivot plate.

9 Swing the engine pivot plate in towards the machine.

10 Install the bolt that was just removed into the original hole to secure the engine pivot plate.

⚠WARNING Crushing hazard. Failure to install the bolt into the engine pivot plate to secure it from moving could result in death or serious injury.

Belts - Genie part numbers

Cummins engine belt	62437
Cummins generator belt	60725

A-7
Check the Engine Cooling Fan - Liquid Cooled Models

Maintaining the engine cooling fan is essential to good engine performance and service life. The machine will not operate properly with a loose or defective cooling fan and continued use may cause component damage.

⚠WARNING Bodily injury hazard. Do not inspect while the engine is running. Remove the key to secure from operation.

⚠CAUTION Bodily injury hazard. Beware of hot engine components. Contact with hot engine components may cause severe burns.

1 Open the engine side turntable cover and locate the engine cooling fan.

2 Inspect the engine cooling fan for:

- Cracking
- Loose rivets (if equipped)
- Bent or loose blades

3 Check the fan to make sure it is securely mounted. Tighten the cooling fan mounting fasteners if necessary.

4 Replace the cooling fan if any damage is found.

TABLE A PROCEDURES

A-8
Drain the Inline Fuel Filter/ Water Separator

Proper maintenance of the fuel filter/water separator is essential for good engine performance. Failure to perform this procedure can lead to poor engine performance and component damage.

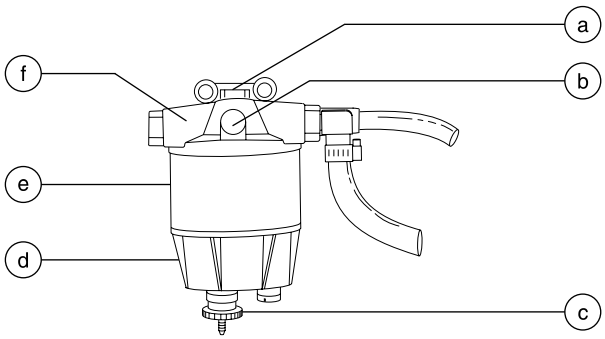
⚠DANGER Explosion and fire hazard. Engine fuels are combustible. Perform this procedure in an open, well-ventilated area away from heaters, sparks, flames and lighted tobacco. Always have an approved fire extinguisher within easy reach.

NOTICE Poor fuel quality or very wet conditions may necessitate performing this procedure more often.

NOTICE Perform this procedure with the engine off.

1 Open the engine side turntable cover and locate the fuel filter/water separator.

2 Loosen the vent plug located on the fuel filter/ water separator head.



a head bolt
b vent plug
c drain plug
d filter bowl
e filter element
f separator head

3 Loosen the drain plug located at the bottom of the bowl. Allow the water to drain into a suitable container until fuel starts to come out. Immediately tighten the drain plug.

NOTICE Do not completely drain the fuel bowl.

4 Tighten the vent plug.

5 Clean up any diesel fuel that may have spilled during the procedure.

6 Start the engine from the ground controls and check the fuel filter/water separator for leaks.

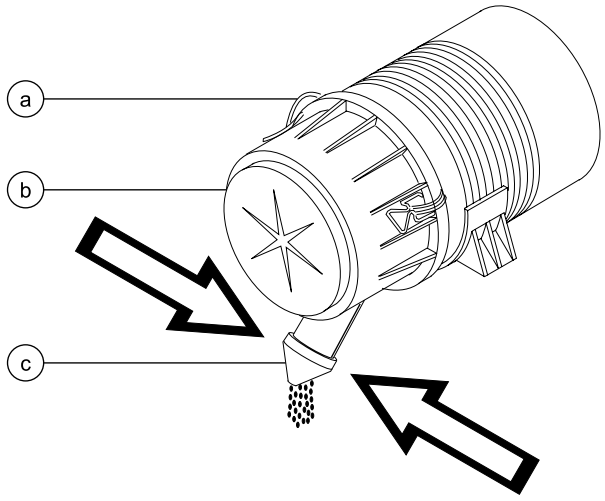
NOTICE If the engine will not start or runs erratically, the fuel system may need to be bled. Refer to B-4, *Replace The Fuel Filter/Water Separator*.

A-9
Inspect the Engine Air Filter

Maintaining the engine air filter in good condition is essential to good engine performance and service life. Failure to perform this procedure can lead to poor engine performance and component damage.

NOTICE Perform this procedure with the engine off.

1 Open the engine side cover. Empty the dust discharge valve by pressing together the sides of the discharge slot. Clean the discharge slot as needed.



a clamp
b cannister end cap
c dust discharge valve

2 Release the clamps from the end cap of the air filter canister. Remove the end cap.

3 Remove the filter element.

4 Clean the inside of the canister and the canister end cap with a damp cloth.

5 Inspect the filter element. If needed, blow from the inside out using low pressure dry compressed air, or tap out dust, taking care not to damage the element.

6 Install the filter element.

7 Install the end cap onto the canister. Secure the clamps.

Air filter element	
Genie part number	62425

TABLE A PROCEDURES

A-10
Check for Fuel Leaks

Failure to detect and correct fuel leaks will result in an unsafe condition. An explosion or fuel fire could result in death or serious injury.

⚠DANGER Explosion and fire hazard. Engine fuels are combustible. Inspect the machine in an open, well-ventilated area away from heaters, sparks, flames and lighted tobacco. Always have an approved fire extinguisher within easy reach.

1 Perform a visual inspection around the following areas:

- Fuel tank, shutoff valve, hoses and fittings, fuel pump, fuel filter, fuel injection pumps and fuel injectors.

⚠DANGER Explosion and fire hazard. If a fuel leak is discovered, keep any additional personnel from entering the area and do not operate the machine. Repair the leak immediately.

A-11
Check the Hydraulic Oil Level

Maintaining the hydraulic oil at the proper level is essential to machine operation. Improper hydraulic oil levels can damage hydraulic components. Daily checks allow the inspector to identify changes in oil level that might indicate the presence of hydraulic system problems.

NOTICE Perform this procedure with the boom in the stowed position and the axles extended.

1 Visually inspect the sight gauge located on the side of the hydraulic oil tank.

⊙ Result: The hydraulic oil level should be 3/4 inch (19 mm) from the top of the sight gauge.

Hydraulic oil specifications

Hydraulic oil type	Dexron equivalent
Tank capacity	55 gallons 208 liters
Hydraulic system (including tank)	80 gallons 303 liters

A-12
Check for Hydraulic Leaks

Detecting hydraulic fluid leaks is essential to operational safety and good machine performance. Undiscovered leaks can develop into hazardous situations, impair machine functions and damage machine components.

1 Inspect for hydraulic oil puddles, dripping or residue on or around the following areas:

- Hydraulic tank—filter, fittings, hoses, auxiliary power unit and turntable surface
- Engine compartment—fittings, hoses, pumps, filters and turntable surface
- All hydraulic cylinders
- All hydraulic manifolds
- Boom
- The underside of the turntable
- The underside of the drive chassis
- Axles
- Ground area under the machine

A-13
Check the Hydraulic Filter Condition Indicators

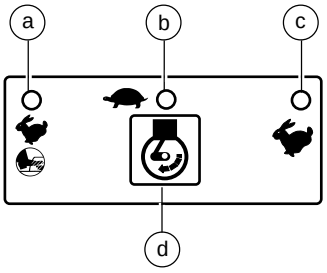
Maintaining the hydraulic filters in good condition is essential to good system performance and safe machine operation. The filter condition indicators will show when the hydraulic flow is bypassing a clogged filter. If the filters are not frequently checked and replaced, impurities will remain in the hydraulic system and cause component damage.

NOTICE There are five hydraulic filters located on the machine. There is two tank return filters, one medium pressure filter and two high pressure filters. All the filters have condition indicators on them, except the drive motor case drain return filter.

1 Start the engine from the platform controls.

TABLE A PROCEDURES

2 Change the engine idle to high rpm (rabbit symbol).

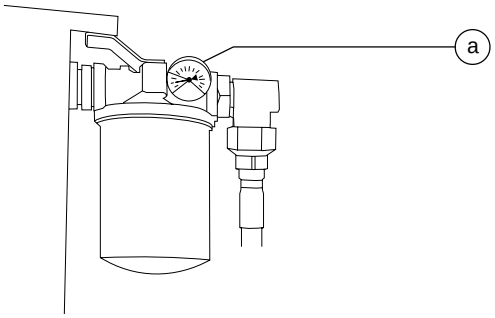


a foot switch activated high idle indicator light
b low idle indicator light
c high idle indicator light
d engine idle speed select button

NOTICE Press the engine idle speed select button until the indicator light next to foot switch activated high idle (rabbit symbol) is on.

Tank Return Filter

3 Inspect the filter condition indicator gauge.



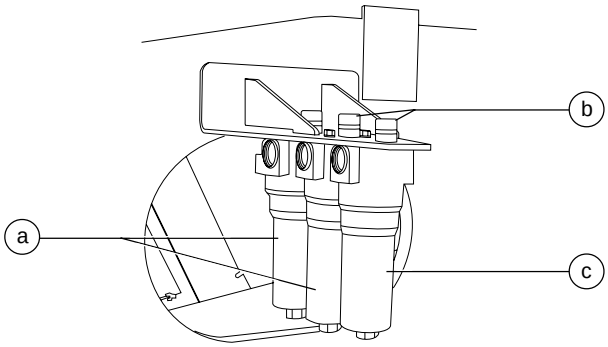
a filter condition indicator gauge

⊙ Result: The needle on the gauge should be operating in the *green* area. If the needle is in the *red* area, this indicates that the hydraulic filter is being bypassed and the filter should be replaced. See B-8, *Replace the Hydraulic Tank Return Filters.*

Medium and High Pressure Filters

NOTICE The medium and high pressure filters are mounted to the engine side bulkhead. A filter condition indicator is located on the top of each filter.

4 Inspect the filter condition indicators.



a high pressure filters
b filter condition indicators
c medium pressure filter

⊙ Result: The filter condition indicators should be operating with the plungers in the *green* area. If any of the indicators display the plunger in the *red* area, this indicates that a hydraulic filter is being bypassed and the filter should be replaced. See B-10, *Replace the Medium and High Pressure Hydraulic Filters.*

A-14
Test the Platform and Ground Controls

Testing the machine functions and the Emergency Stop buttons for malfunctions is essential for safe machine operation. An unsafe working condition exists if any function fails to operate properly or either Emergency Stop button fails to stop all the machine functions and shut off the engine. Each function should activate, operate smoothly and be free of hesitation, jerking and unusual noise.

⚠DANGER Tip-over hazard. Do not raise or extend the boom unless both axles are extended. If the axle extension system is not operating correctly, the stability of the machine is compromised and it may tip over.

NOTICE Be sure the axles are retracted before performing this procedure.

1 Turn the key switch to ground controls and pull out the Emergency Stop button to the ON position at both the ground and platform controls.

⊙ Result: The LCD screen will come on and display no error messages. The beacon (if equipped) should flash.

NOTICE In cold climates, the LCD readout screen will need to warm up before the display appears.

2 Start the engine.

3 Push and hold a function enable/speed select button and push the boom up button.

⊙ Result: The boom should raise to 10° above horizontal and then stop. The boom should not raise above the limit switch unless both axles are extended.

4 Push and hold a function enable/speed select button and push the boom down button.

⊙ Result: The boom should lower and return to the stowed position.

5 Push and hold a function enable/speed select button and press the boom extend button.

⊙ Result: The boom will extend approximately 3 feet (1 m) and stop. The boom should not extend further unless both axles are extended.

6 Push and hold a function enable/speed select button and push the boom retract button.

⊙ Result: The boom should retract.

7 Turn the key switch to platform controls.

8 Press down the foot switch.

9 Move the drive control handle in the forward direction and push the extend axle button.

⊙ Result: The machine should drive and the axles should extend. The indicator light will flash while the axles are moving and stay on when the axles are fully extended.

NOTICE The extend axle function will only work while the machine is moving.

TABLE A PROCEDURES

10 Stop the machine when the axles are fully extended.

Test the Ground Controls

11 Turn the key switch to ground controls.

12 Do not press and hold a function enable/speed select button. Attempt to activate each boom and platform function button.

⊙ Result: No boom and platform functions should operate.

13 Press and hold a function enable/speed select button and activate each boom and platform function button.

⊙ Result: All boom and platform functions should operate through a full cycle. Descent alarm (if equipped) should sound while boom is lowering.

Test the Platform Controls

14 Turn the key switch to platform controls.

15 Do not press down the foot switch.

16 Attempt to activate each machine function control handle, toggle switch or button.

⊙ Result: No boom and platform functions should operate.

17 Press down the foot switch.

18 Activate each machine function control handle, toggle switch or button.

⊙ Result: All functions should operate through a full cycle. Descent alarm (if equipped) should sound while boom is lowering.

A-15
Test the Auxiliary Power Operation

Detection of auxiliary power system malfunctions is essential for safe machine operation. An unsafe working condition exists if the auxiliary powered functions do not operate in the event of a main power loss. When operating the machine on engine power, selecting auxiliary power will stop the engine immediately. Auxiliary power is designed for short term use only and excessive use will result in battery drain and component damage.

NOTICE Perform this procedure with the axles extended and the engine off.

1 Turn the key switch to ground control and pull out the Emergency Stop button to the ON position at both the ground and platform controls.

2 Simultaneously push and hold the auxiliary power button and push each boom function button.

NOTICE To conserve battery power, test each function through a partial cycle.

⊙ Result: All boom functions should operate.

3 Turn the key switch to platform controls.

4 Press down the foot switch.

5 Simultaneously press and hold the auxiliary power button and activate each function control handle, toggle switch or button.

NOTICE To conserve battery power, test each function through a partial cycle.

⊙ Result: All boom functions should operate.

A-16
Test the Tilt Sensor and Alarm

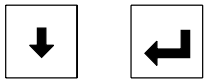
The tilt sensor sounds an alarm located in the platform when the incline of the turntable exceeds the rating on the serial plate.

NOTICE Select a level test area. The tilt alarm should not be sounding prior to the test.

NOTICE Be sure the engine is off.

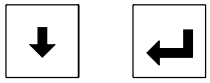
1 Turn the key switch to ground controls and pull out the Emergency Stop buttons out to the ON position at both the ground and platform controls.

2 Push one of the LCD screen buttons shown until TURNTABLE LEVEL X AXIS appears.



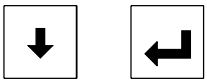
⊙ Result: The LCD screen should display the angle in degrees.

3 Push one of the LCD screen buttons shown until TURNTABLE LEVEL Y AXIS appears.



⊙ Result: The LCD screen should display the angle in degrees.

4 Push one of the LCD screen buttons shown until PLATFORM LEVEL appears.



⊙ Result: The LCD screen should display the angle in degrees.

5 Turn the key switch to platform controls.

6 Push a button, such as the engine RPM button or the fuel select button.

⊙ Result: The alarm should sound at the platform controls.

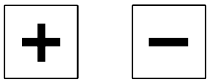
TABLE A PROCEDURES

A-17
Test the Operating Envelope

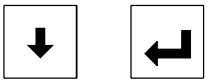
Testing the machine operating envelope is critical to safe machine operation. If the boom is allowed to operate outside of the operating envelope, the machine stability is compromised and may tip over.

1 Turn the key switch to ground controls and pull out the Emergency Stop buttons out to the ON position at both the ground and platform controls.

2 Simultaneously push the LCD screen buttons shown to activate status mode.



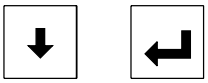
3 Push one of the LCD screen buttons shown until BOOM ANGLE is displayed.



4 Raise the boom and observe the LCD screen.

⊙ Result: The LCD screen should display:
<10
>10
>50
>65

5 Push one of the LCD screen buttons shown until BOOM LENGTH is displayed.



6 Extend the boom and observe the LCD screen.

⊙ Result: The LCD screen should display:
at 0
> 0
>80
= 100
>100

7 Retract the boom.

8 Lower the boom.

A-18
Perform 30 Day Service

The 30 day maintenance procedure is a one-time sequence of procedures to be performed after the first 30 days or 40 hours of usage. After this interval, refer to the maintenance tables for continued scheduled maintenance.

1 Perform the following maintenance procedures:

Deutz models:

- A-3 Inspect for Damage and Loose or Missing Parts
- A-19 Check the Engine Fasteners - Deutz Models
- B-3 Check the Engine Belt(s) - Deutz and Perkins Models
- B-5 Replace the Air Filter
- B-8 Replace the Hydraulic Tank Return Filters
- B-13 Inspect the Tires and Wheels (including lug nut torque)
- C-1 Check the Engine Valve Clearances - Deutz Models
- C-6 Inspect the Boom Extend/Retract Cables
- D-4 Check the Turnable Rotation Bearing Bolts
- D-9 Replace the Fuel Filter/Water Separator - Deutz Models
- B-15 Check and Adjust the Engine RPM
- C-4 Replace the Engine Oil and Filter - Deutz and Perkins Models

Cummins models:

- A-3 Inspect for Damage and Loose or Missing Parts
- A-5 Check the Engine Coolant Level - Liquid Cooled Models
- B-5 Replace the Air Filter
- B-8 Replace the Hydraulic Tank Return Filters
- B-13 Inspect the Tires and Wheels (including lug nut torque)
- C-3 Replace the Fuel Filter Element - Perkins and Cummins Models
- C-6 Inspect the Boom Extend/Retract Cables
- D-4 Check the Turnable Rotation Bearing Bolts
- D-8 Check the Engine Belt(s) - Cummins Models
- D-10 Check the Engine Valve Clearances - Cummins and Perkins Models
- B-15 Check and Adjust the Engine RPM
- B-28 Replace the Engine Oil and Filter - Cummins Models

TABLE A PROCEDURES

Perkins models:

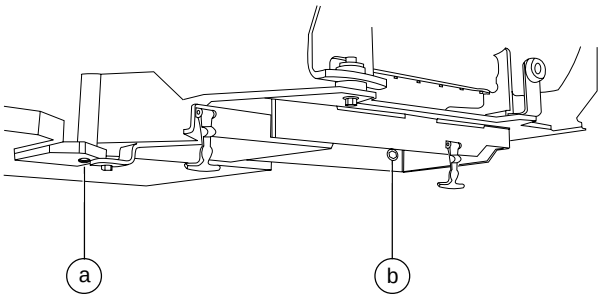
- A-3 Inspect for Damage and Loose or Missing Parts
- A-5 Check the Engine Coolant Level - Liquid Cooled Models
- B-3 Check the Engine Belt(s) - Deutz and Perkins Models
- B-5 Replace the Air Filter
- B-8 Replace the Hydraulic Tank Return Filters
- B-13 Inspect the Tires and Wheels (including lug nut torque)
- C-3 Replace the Fuel Filter Element - Perkins and Cummins Models
- C-6 Inspect the Boom Extend/Retract Cables
- D-4 Check the Turnable Rotation Bearing Bolts
- D-10 Check the Engine Valve Clearances - Cummins and Perkins Models
- B-15 Check and Adjust the Engine RPM
- C-4 Replace the Engine Oil and Filter - Deutz and Perkins Models

A-19
Check the Engine Fasteners - Deutz Models

NOTICE Engine specifications require that this procedure be performed after 40 hours of use.

Properly torqued engine fasteners are essential to good engine performance and operational safety. Loose or improperly torqued fasteners can result in engine component damage and hazardous conditions.

1 Remove the engine pivot plate retaining fastener. Swing the engine pivot plate out away from the machine.



a engine pivot plate anchor hole
b engine pivot plate retaining fastener

2 Locate the engine pivot plate anchor hole at the pivot end of the engine pivot plate.

3 Install the bolt that was just removed into the anchor hole to secure the engine pivot plate from moving.

⚠WARNING Crushing hazard. Failure to install the bolt into the engine pivot plate to secure it from moving could result in death or serious injury.

4 Tighten all valve cover retaining fasteners. Torque to 108 in-lbs (12 Nm).

5 Tighten all air intake pipe clamps. Torque to 108 in-lbs (12 Nm).

6 Tighten all intake manifold retaining fasteners. Torque to 17 ft-lbs (23 Nm).

7 Tighten all exhaust manifold retaining fasteners. Torque to 30 ft-lbs (40 Nm).

8 Tighten all engine mounting fasteners. Torque engine to bracket mounting fasteners to 54 ft-lbs (73 Nm) and bracket to engine pivot plate mounting fasteners to 175 ft-lbs (237 Nm).

9 Remove the engine pivot plate retaining fastener from the engine pivot plate anchor hole at the pivot end of the engine pivot plate.

10 Swing the engine pivot plate in towards the machine.

11 Install the bolt that was just removed into the original hole to secure the engine pivot plate.

⚠WARNING Crushing hazard. Failure to install the bolt into the engine pivot plate to secure it from moving could result in death or serious injury.

A-20
Check the Batteries

NOTICE Genie specifications require that this procedure be performed every 125 hours.

Proper battery condition is essential to good engine performance and operational safety. Improper fluid levels or damaged cables and connections can result in engine component damage and hazardous conditions. There are 2 batteries on the machine. One is used for starting the engine and the other is used to power the control system. The two batteries are charged by the alternator through a battery separator.

⚠WARNING Electrocution hazard. Contact with hot or live circuits could result in death or serious injury. Remove all rings, watches and other jewelry.

⚠WARNING Bodily injury hazard. Batteries contain acid. Avoid spilling or contacting battery acid. Neutralize battery acid spills with baking soda and water.

1 Put on protective clothing and eye wear.

2 Be sure that the battery cable connections are free of corrosion.

3 Be sure that the battery hold downs and cable connections are tight.

TABLE A PROCEDURES

4 Be sure that the battery separator wire connections are tight.

5 Remove the battery vent caps from both batteries and check the specific gravity of each battery with a hydrometer.

⊙ Result: If any battery cell displays a specific gravity of less than 1.026, the battery must be replaced.

6 Check the battery acid level. If needed, replenish with distilled water to the bottom of the battery fill tube. Do not overfill.

7 Install the vent caps.

NOTICE Adding terminal protectors and a corrosion preventative sealant will help eliminate corrosion on the battery terminals and cables.

Table B Procedures

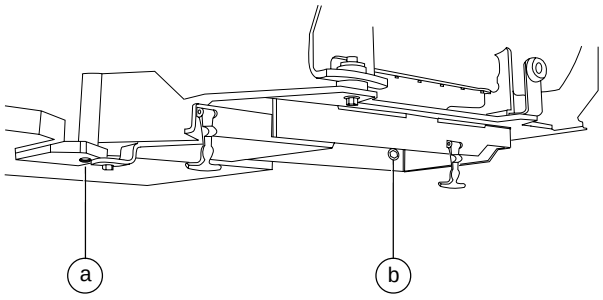
B-1
Check the Radiator - Liquid Cooled Models

Maintaining the radiator in good condition is essential for good engine performance. Operating a machine with a damaged or leaking radiator may result in engine damage. Also, restricting air flow through the radiator (i.e., dirt or debris) will affect the performance of the cooling system. A frequent check allows the inspector to identify changes in the condition of the radiator that might indicate cooling system problems.

⚠WARNING Bodily injury hazard. Do not inspect while the engine is running. Remove the key to secure from operation.

⚠CAUTION Bodily injury hazard. Beware of hot engine parts and coolant. Contact with hot engine parts and/or coolant may cause severe burns.

1 Remove the engine pivot plate retaining fastener. Swing the engine pivot plate out away from the machine.



a engine pivot plate anchor hole
b engine pivot plate retaining fastener

2 Locate the engine pivot plate anchor hole at the pivot end of the engine pivot plate.

3 Install the bolt that was just removed into the anchor hole to secure the engine pivot plate from moving.

⚠WARNING Crushing hazard. Failure to install the bolt into the engine pivot plate to secure it from moving could result in death or serious injury.

4 Inspect the radiator for leaks and physical damage.

5 Clean the radiator fins of debris and foreign materials.

6 Remove the engine pivot plate retaining fastener from the engine pivot plate anchor hole at the pivot end of the engine pivot plate.

7 Swing the engine pivot plate in towards the machine.

8 Install the bolt that was just removed into the original hole to secure the engine pivot plate.

⚠WARNING Crushing hazard. Failure to install the bolt into the engine pivot plate to secure it from moving could result in death or serious injury.

TABLE B PROCEDURES

B-2
Check the Oil Cooler and Cooling Fins - Deutz Models

Maintaining the oil cooler in good condition is essential for good engine performance. Operating a machine with a damaged oil cooler may result in engine damage. Also, restricting air flow through the oil cooler will affect the performance of the cooling system.

⚠WARNING Bodily injury hazard. Do not inspect while the engine is running. Remove the key to secure from operation.

⚠CAUTION Bodily injury hazard. Beware of hot engine components. Contact with hot engine components may cause severe burns.

Oil Cooler

1 Open the latches from the engine side cover. Remove the cover.

2 Inspect the oil cooler for leaks and physical damage.

3 Clean the oil cooler of debris and foreign material.

Cooling and Fan Blower Fins

4 Inspect the fan blower fins for physical damage.

5 Clean the fan blower fins of debris and foreign material.

6 Inspect the cylinder head cooling passages and fins for physical damage or foreign material, using a flashlight.

7 Clean the cylinder head cooling passages of debris and foreign material.

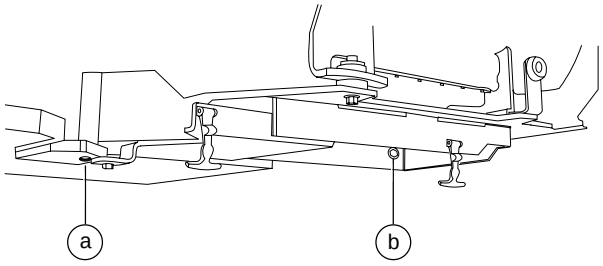
B-3
Check the Engine Belt(s) - Deutz and Perkins Models

Maintaining the engine belt(s) is essential to good engine performance and service life. The machine will not operate properly with a loose or defective belt and continued use may cause component damage.

⚠WARNING Bodily injury hazard. Do not inspect while the engine is running. Remove the key to secure from operation.

⚠CAUTION Burn injury hazard. Beware of hot engine components. Contact with hot engine components may cause severe burns.

1 Remove the engine pivot plate retaining fastener. Swing the engine pivot plate out away from the machine.



a engine pivot plate anchor hole
b engine pivot plate retaining fastener

2 Locate the engine pivot plate anchor hole at the pivot end of the engine pivot plate.

3 Install the bolt that was just removed into the anchor hole to secure the engine pivot plate from moving.

⚠WARNING Crushing hazard. Failure to install the bolt into the engine pivot plate to secure it from moving could result in death or serious injury.

Deutz models:

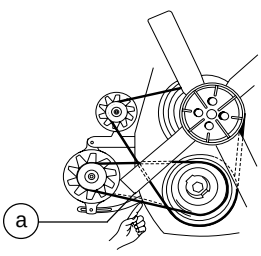
4 Remove the front engine access cover mounting fasteners and remove the front engine access cover.

All models:

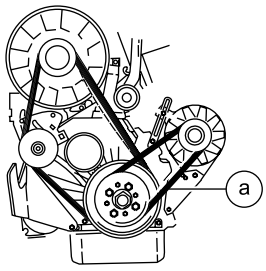
5 Inspect the engine belt for:
- Cracking
- Glazing
- Separation
- Breaks

6 Replace the belt if any damage is found.

7 Inspect the generator belt (if equipped) for:
- Cracking
- Glazing
- Separation
- Breaks



Perkins engine

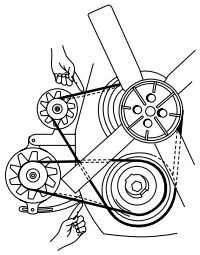


Deutz engine

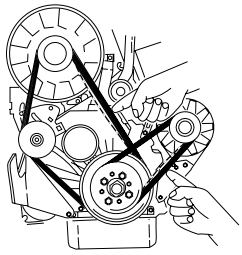
a generator belt

TABLE B PROCEDURES

8 Check the engine belt(s) for proper tension.



Perkins engine



Deutz engine

Deutz models:

9 Install the front engine access cover mounting fasteners and install the front engine access cover.

All models:

10 Remove the engine pivot plate retaining fastener from the engine pivot plate anchor hole at the pivot end of the engine pivot plate.

11 Swing the engine pivot plate in towards the machine.

12 Install the bolt that was just removed into the original hole to secure the engine pivot plate.

⚠WARNING Crushing hazard. Failure to install the bolt into the engine pivot plate to secure it from moving could result in death or serious injury.

Belts - Genie part numbers	
Deutz Engine Belt	62431
Deutz Generator Belt	75053
Perkins Engine Belt	62428
Perkins Generator Belt	75053

Belt deflection	3/8 inch to 1/2 inch 9 mm to 12 mm

B-4
Replace the Inline Fuel Filter/ Water Separator Element

Replacing the inline fuel filter/water separator element is essential for good engine performance and service life. A dirty or clogged filter may cause the engine to perform poorly and continued use may cause component damage. Extremely dirty conditions may require that the filter be replaced more often.

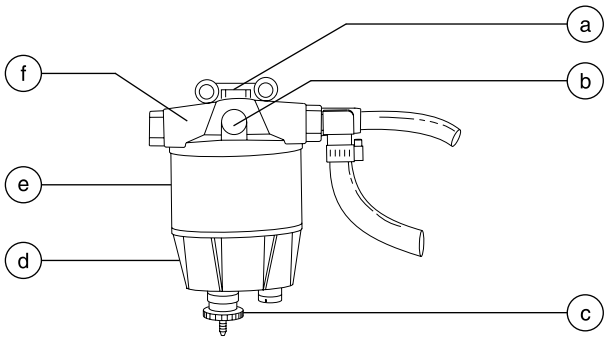
⚠DANGER Explosion and fire hazard. Engine fuels are combustible. Perform this procedure in an open, well-ventilated area away from heaters, sparks, flames and lighted tobacco. Always have an approved fire extinguisher within easy reach.

NOTICE Perform this procedure with the engine off.

1 Tag, disconnect and plug the fuel line from the fuel tank at the inline fuel filter/water separator head.

TABLE B PROCEDURES

2 Loosen the vent plug located on the inline fuel filter/water separator head.



a head bolt
b vent plug
c drain plug
d filter bowl
e filter element
f fuel filter/water separator head

3 Place a suitable container under the filter bowl.

4 Loosen the drain plug located at the bottom of the bowl. Completely drain the fuel from the bowl.

5 Loosen the head bolt. Rotate the filter bowl counterclockwise and remove it from the element.

6 Install the bowl onto the new inline filter element (Genie part number 62433). Tighten the drain plug.

7 Fill the element and bowl with clean diesel fuel.

8 Apply a thin layer of oil onto the element gasket.

9 Install the filter/bowl assembly onto the filter head and tighten it securely by hand.

NOTICE The filter/bowl assembly must be full of fuel when it is installed onto the filter head or the fuel system will have to be bled.

10 Tighten the head bolt to 65 in-lbs (7.3 Nm).

11 Tighten the vent plug.

12 Clean up any diesel fuel that may have spilled during the procedure.

13 Use a permanent ink marker to write the date and number of hours from the hour meter on the filter.

14 Install the fuel tank line onto the inline fuel filter/ water separator head. Tighten the hose clamp.

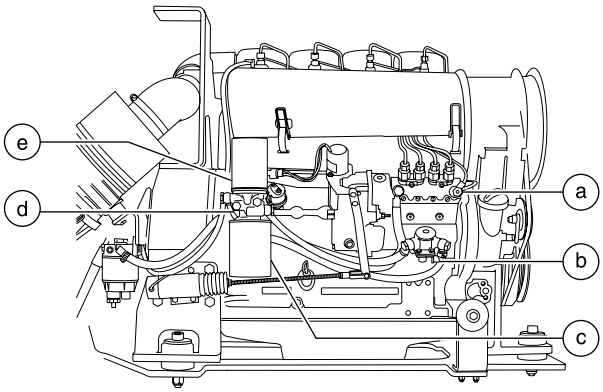
Inline fuel filter/water separator element - Genie part number	62433

Bleed the fuel system:

NOTICE Before bleeding the fuel system, be sure the fuel tank is full.

Deutz models:

1 Loosen the overflow valve at the injector pump.



a overflow valve
b fuel lift pump priming lever
c oil filter
d filter head
e fuel filter

TABLE B PROCEDURES

2 Operate the priming lever of the fuel lift pump until fuel, free from air, comes from the vent.

3 While continuing to operate the priming lever, tighten the overflow valve.

4 Clean up any diesel fuel that might have spilled during the procedure.

5 Start the engine and inspect for leaks.

⚠DANGER Explosion and fire hazard. If a fuel leak is discovered, keep any additional personnel from entering the area and do not operate the machine. Repair the leak immediately.

CAUTION Component damage hazard. Damage to the fuel injection pump, battery and starter motor can occur if the stater motor is used excessively to eliminate air from the fuel system. Do not engage the starter motor for more than 30 seconds at a time. Wait 120 seconds between starter motor engagements.

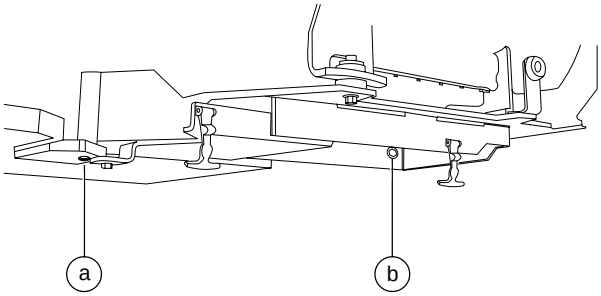
CAUTION Component damage hazard. Operate the engine at low idle speed for a minimum of two minutes immediately after air has been removed from the fuel system. This will ensure that the pump is free of air and prevent any damage to the pumps by metal to metal contact.

NOTICE If the engine does not start or runs erratically, refer to the *Deutz Operation Manual,* Deutz part number 0297 7341 (Genie part number 62446) for additional information on the fuel system.

Cummins models:

NOTICE Controlled venting is provided at the injection pump. Small amounts of air introduced by changing the filters or injection pump supply line will be vented automatically. If the fuel filter is changed in accordance with instructions, no manual bleeding of the fuel system is needed.

1 Remove the engine pivot plate retaining fastener. Swing the engine pivot plate out away from the machine.



a engine pivot plate anchor hole
b engine pivot plate retaining fastener

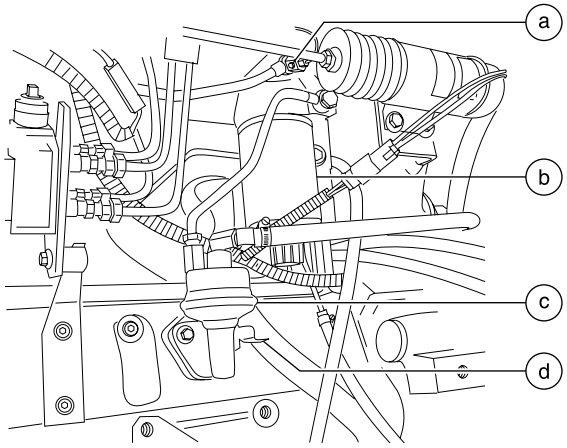
2 Locate the engine pivot plate anchor hole at the pivot end of the engine pivot plate.

3 Install the bolt that was just removed into the anchor hole to secure the engine pivot plate from moving.

⚠WARNING Crushing hazard. Failure to install the bolt into the engine pivot plate to secure it from moving could result in death or serious injury.

TABLE B PROCEDURES

4 Loosen the fuel filter/water separator filter vent screw, located on top of the fuel filter/water separator head.



a filter head vent screw
b fuel filter
c lift pump
d priming lever

5 Operate the priming lever on the fuel lift pump until fuel, free from air, comes out from the vent screw.

6 While continuing to operate the priming lever, tighten the vent screw. Torque the vent screw to 80 in-lbs (9 Nm).

10 Clean up any diesel fuel that may have spilled during the procedure.

11 Start the engine and inspect for leaks.

⚠DANGER Explosion and fire hazard. If a fuel leak is discovered, keep any additional personnel from entering the area and do not operate the machine. Repair the leak immediately.

CAUTION Component damage hazard. Damage to the fuel injection pump, battery and starter motor can occur if the stater motor is used excessively to eliminate air from the fuel system. Do not engage the starter motor for more than 30 seconds at a time. Wait 120 seconds between starter motor engagements.

CAUTION Component damage hazard. Operate the engine at low idle speed for a minimum of two minutes immediately after air has been removed from the fuel system. This will ensure that the pump is free of air and prevent any damage to the pumps by metal to metal contact.

NOTICE If the engine does not start or runs erratically, refer to the *Cummins Operation and Maintenance Manual,* Cummins part number 3810205 (Genie part number 62448) for additional information on the fuel system.

TABLE B PROCEDURES

12 Remove the engine pivot plate retaining fastener from the engine pivot plate anchor hole at the pivot end of the engine pivot plate.

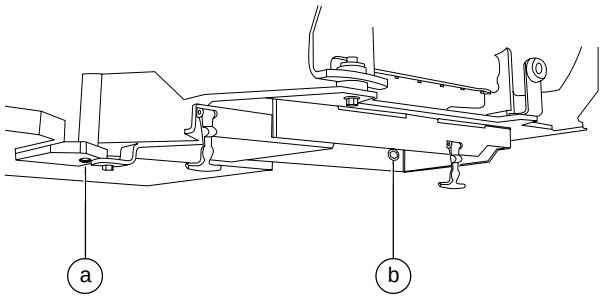
13 Swing the engine pivot plate in towards the machine.

14 Install the bolt that was just removed into the original hole to secure the engine pivot plate.

⚠WARNING Crushing hazard. Failure to install the bolt into the engine pivot plate to secure it from moving could result in death or serious injury.

Perkins models:

1 Remove the engine pivot plate retaining fastener. Swing the engine pivot plate out away from the machine.



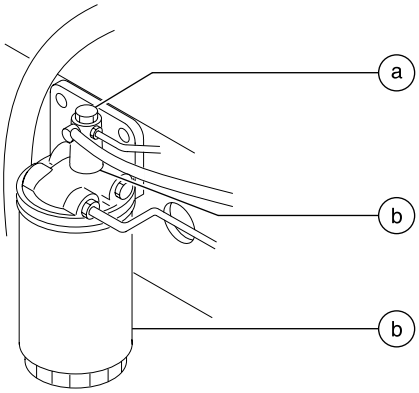
a engine pivot plate anchor hole
b engine pivot plate retaining fastener

2 Locate the engine pivot plate anchor hole at the pivot end of the engine pivot plate.

3 Install the bolt that was just removed into the anchor hole to secure the engine pivot plate from moving.

⚠WARNING Crushing hazard. Failure to install the bolt into the engine pivot plate to secure it from moving could result in death or serious injury.

4 Loosen the fuel filter/water separator filter vent screw, located on top of the fuel filter/water separator head.

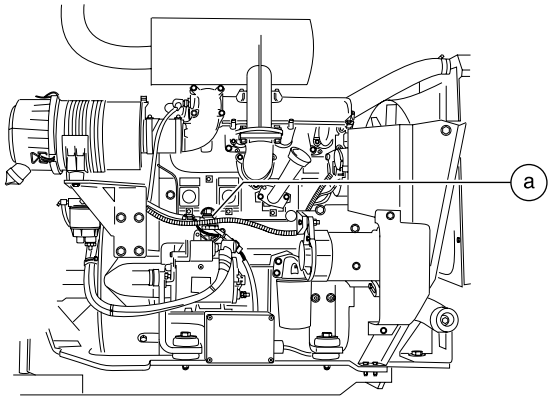


a vent screw
b fuel filter head
c fuel filter

TABLE B PROCEDURES

5 Operate the priming lever of the fuel lift pump until fuel, free from air, comes from the vent.

NOTICE If the drive cam of the fuel lift pump is at the point of maximum lift, it will not be possible to operate the priming lever. In this situation, rotate the crankshaft one revolution.



a fuel lift pump

6 While continuing to operate the priming lever, tighten the vent screw.

7 Loosen the union nut on the fuel inlet pipe at the injection pump.

8 Operate the priming lever of the fuel lift pump until fuel, free from air, comes from the connection.

9 Tighten the union nut.

10 Clean up any diesel fuel that may have spilled during the procedure.

11 Start the engine and check for leaks.

⚠DANGER Explosion and fire hazard. If a fuel leak is discovered, keep any additional personnel from entering the area and do not operate the machine. Repair the leak immediately.

CAUTION Component damage hazard. Damage to the fuel injection pump, battery and starter motor can occur if the stater motor is used excessively to eliminate air from the fuel system. Do not engage the starter motor for more than 30 seconds at a time. Wait 120 seconds between starter motor engagements.

CAUTION Component damage hazard. Operate the engine at low idle speed for a minimum of two minutes immediately after air has been removed from the fuel system. This will ensure that the pump is free of air and prevent any damage to the pumps by metal to metal contact.

NOTICE If the engine does not start or runs erratically, refer to the *Perkins User's Handbook,* Perkins part number TPD 1349 (Genie part number 62447) for additional information on the fuel system.

TABLE B PROCEDURES

12 Remove the engine pivot plate retaining fastener from the engine pivot plate anchor hole at the pivot end of the engine pivot plate.

13 Swing the engine pivot plate in towards the machine.

14 Install the bolt that was just removed into the original hole to secure the engine pivot plate.

⚠WARNING Crushing hazard. Failure to install the bolt into the engine pivot plate to secure it from moving could result in death or serious injury.

B-5
Replace the Air Filter

Maintaining the engine air filter in good condition is essential to good engine performance and service life. Failure to perform this procedure can lead to poor engine performance and component damage.

NOTICE Perform this procedure with the engine off.

1 Open the evacuator valve located on the air cleaner cap by squeezing the sides together with your fingers.

2 Open the latches on the air cleaner cap. Remove the end cap from the air cleaner canister.

3 Remove the filter element.

4 Clean the inside of the air cleaner canister and end cap with a damp cloth.

5 Install the new filter element.

6 Replace the end cap on the canister.

NOTICE Be sure the evacuator valve is pointing in the down direction.

Air filter - Genie part number	62425

TABLE B PROCEDURES

B-6
Inspect the Air Intake System

Maintaining the air intake system in good condition is essential to good engine performance and service life. Failure to perform this procedure can lead to poor engine performance and component damage.

NOTICE Perform this procedure with the engine off.

1 Inspect the intake piping for cracked hoses, loose clamps or punctures which can allow dirt and debris to enter the engine.

2 Tighten or replace parts as necessary to make sure the air intake system does not leak.

B-7
Check the Exhaust System

Maintaining the exhaust system is essential to good engine performance and service life. Running the engine with a damaged or leaking exhaust system can cause component damage and unsafe operating conditions.

⚠WARNING Bodily injury hazard. Do not inspect while the engine is running. Remove the key to secure from operation.

⚠CAUTION Bodily injury hazard. Beware of hot engine components. Contact with hot engine components may cause severe burns.

Cummins and Perkins models:

1 Be sure that all fasteners are tight.

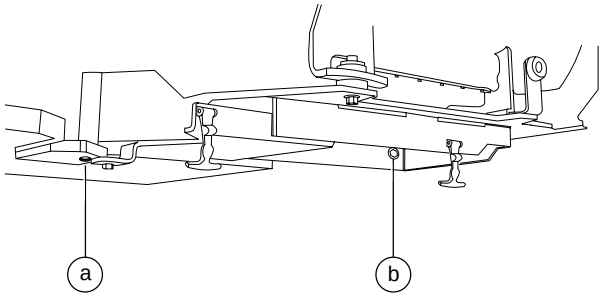
2 Inspect all welds for cracks.

3 Inspect for exhaust leaks; i.e., carbon buildup around seams and joints.

TABLE B PROCEDURES

Deutz models:

1 Remove the engine pivot plate retaining fastener. Swing the engine pivot plate out away from the machine.



a engine pivot plate anchor hole
b engine pivot plate retaining fastener

2 Locate the engine pivot plate anchor hole at the pivot end of the engine pivot plate.

3 Install the bolt that was just removed into the anchor hole to secure the engine pivot plate from moving.

⚠WARNING Crushing hazard. Failure to install the bolt into the engine pivot plate to secure it from moving could result in death or serious injury.

4 Be sure that all fasteners are tight.

5 Inspect all welds for cracks.

6 Inspect for exhaust leaks; i.e., carbon buildup around seams and joints.

7 Remove the engine pivot plate retaining fastener from the engine pivot plate anchor hole at the pivot end of the engine pivot plate.

8 Swing the engine pivot plate in towards the machine.

9 Install the bolt that was just removed into the original hole to secure the engine pivot plate.

⚠WARNING Crushing hazard. Failure to install the bolt into the engine pivot plate to secure it from moving could result in death or serious injury.

B-8
Replace the Hydraulic Tank Return Filters

Replacement of the hydraulic tank return filter is essential for good machine performance and service life. A dirty or clogged filter may cause the machine to perform poorly and continued use may cause component damage. Extremely dirty conditions may require that the filter be replaced more often.

⚠CAUTION Burn hazard. Beware of hot oil. Contact with hot oil may cause severe burns.

NOTICE Perform this procedure with the engine off.

NOTICE There are two return filters on the machine. One is the system return filter and the other one is the return filter for the drive motor case drains.

1 Open the ground controls side turntable side cover and locate the tank return filters.

NOTICE The system return filter is located near the top of the hydraulic tank and the drive motor case drain return filter is located below the system return filter.

2 Place a suitable container under the hydraulic tank return filters.

3 Remove each filter with an oil filter wrench.

4 Apply a thin layer of clean oil to the new oil filter gaskets.

5 Install the new system return filter (Genie part number 61326) and tighten it securely by hand.

6 Install the drive motor case drain return filter (Genie part number 44207) and tighten it securely by hand.

7 Clean up any oil that may have spilled during the procedure.

8 Use a permanent ink marker to write the date and number of hours from the hour meter on the filters.

9 Start the engine from the ground controls.

10 Inspect the filters and related components to be sure that there are no leaks.

Hydraulic tank return filters - Genie part numbers

System return filter	61326
Drive motor case drain return filter	44207

TABLE B PROCEDURES

B-9
Replace the Hydraulic Tank Breather Filter

Replacement of the hydraulic tank breather filter is essential for good machine performance and service life. A dirty or clogged filter may cause the machine to perform poorly and continued use may cause component damage. Extremely dirty conditions may require that the filter be replaced more often.

⚠CAUTION Burn hazard. Beware of hot oil. Contact with hot oil may cause severe burns.

NOTICE Perform this procedure with the engine off.

1 Open the ground controls side cover and locate the tank breather filter.

NOTICE The tank breather filter is located on top of the hydraulic tank.

2 Remove the filter with an oil filter wrench.

3 Apply teflon tape to the threads of the hydraulic tank filter mount.

4 Install a new tank breather filter (Genie part number 60559) onto the filter mount and tighten it securely by hand.

5 Use a permanent ink marker to write the date and number of hours from the hour meter on the filter.

Hydraulic tank breather filter	
Genie part number	60559

B-10
Replace the Medium and High Pressure Hydraulic Filters

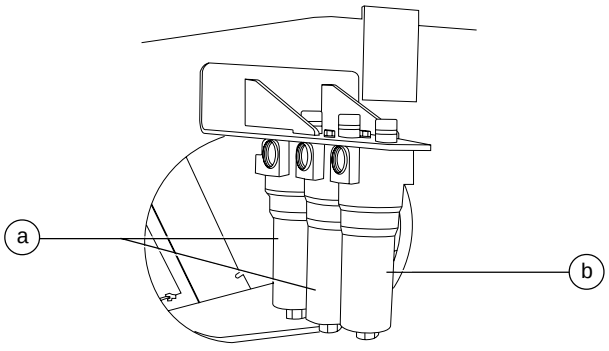
Replacement of the medium and high pressure filters is essential for good machine performance and service life. A dirty or clogged filter may cause the machine to perform poorly and continued use may cause component damage. Extremely dirty conditions may require that the filters be replaced more often.

⚠CAUTION Burn hazard. Beware of hot oil. Contact with hot oil may cause severe burns.

NOTICE The medium pressure filter is for the charge pump and the high pressure filters are for the drive circuit.

NOTICE Perform this procedure with the engine off.

1 Open the engine side turntable cover and locate the three filters mounted to the bulkhead.



a high pressure filters
b medium pressure filter

2 Place a suitable container under the filters.

3 Remove the filter housing by using a wrench on the nut provided on the bottom of the housing.

4 Remove the filter element from the housing.

5 Inspect the housing seal and replace it if necessary.

6 Install the new medium pressure filter element into the housing (Genie part number 60858) and tighten it securely.

7 Install the new high pressure filter elements into the housings (Genie part number 60857) and tighten them securely.

8 Clean up any oil that may have spilled during the installation procedure.

9 Use a permanent ink marker to write the date and number of hours from the hour meter on the oil filter housings.

10 Start the engine from the ground controls.

11 Inspect the filter housings and related components to be sure that there are no leaks.

Medium and high pressure filters - Genie part numbers

Medium pressure filter	60858
High pressure filter	60857

TABLE B PROCEDURES

B-11
Inspect the Electrical Wiring

Maintaining electrical wiring in good condition is essential to safe operation and good machine performance. Failure to find and replace burnt, chafed, corroded or pinched wires could result in unsafe operating conditions and may cause component damage.

⚠WARNING Electrocution hazard. Contact with hot or live circuits could result in death or serious injury. Remove all rings, watches and other jewelry.

1 Inspect the following areas for burnt, chafed, corroded and loose wires:

- Engine wiring harness
- Ground control box harness connectors
- Turntable manifold wiring

2 Start the engine from the platform controls and extend the axles.

3 Turn the key switch to ground control and raise the boom above the turntable covers.

4 Install a safety chock (Genie part number 75097) onto the hydraulic lift cylinder extension rod. Carefully lower the boom onto the lift cylinder safety chock.

⚠WARNING Crushing hazard. Keep hands away from the cylinder and all moving parts when lowering the boom.

NOTICE The lift cylinder safety chock is available through Genie (Genie part number 75097).

5 Turn the engine off.

6 Remove the boom storage area cover retaining fasteners and remove the boom storage area cover.

7 Inspect the turntable area for burnt, chafed and pinched cables.

8 Install the boom storage area cover and install the boom storage area cover retaining fasteners.

9 Raise the boom to a horizontal position.

10 Remove the safety chock and lower the boom to the stowed position.

10 Turn the engine off.

11 Inspect the following areas for burnt, chafed, corroded, pinched and loose wires:

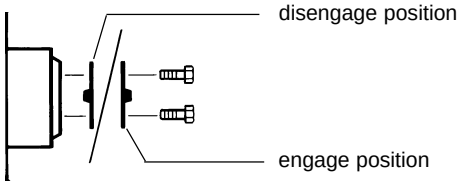
- Cable track on the boom
- Boom to platform cable harness
- Platform control box harness connectors
- Platform manifold wiring

TABLE B PROCEDURES

B-12
Confirm the Proper Brake Configuration

Proper brake configuration is essential to safe operation and good machine performance. Hydrostatic brakes and hydraulically-released, spring-applied individual wheel brakes can appear to operate normally when they are actually not fully operational.

1 Check each drive hub disconnect cap to be sure it is in the engaged position.



B-13
Inspect the Tires and Wheels (including lug nut torque)

Maintaining the tires and wheels in good condition is essential to safe operation and good performance. Tire and/or wheel failure could result in a machine tip-over. Component damage may also result if problems are not discovered and repaired in a timely fashion.

NOTICE The tires on these machines are foam filled and do not need air added to them.

1 Check all tire treads and sidewalls for cuts, cracks, punctures and unusual wear.

2 Check each wheel for damage, bends and cracked welds.

3 Check each lug nut for proper torque.

Tires and wheels	
Tire size	18-22.5
Tire ply rating	18
Wheel lugs	10 @ 3/4 -16
Lug nut torque, dry	420 ft-lbs 569.5 Nm
Lug nut torque, lubricated	320 ft-lbs 433.9 Nm

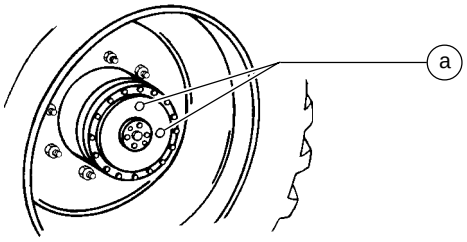
TABLE B PROCEDURES

B-14
Check the Oil Level in the Drive Hubs

Failure to maintain proper drive hub oil levels may cause the machine to perform poorly and continued use may cause component damage.

Drive Hubs

1 Drive the machine to rotate the hub until the plugs are located one on top and the other at 90°.



a drive hub plugs

2 Remove the plug located at 90° and check the oil level.

⊙ Result: The oil level should be even with the bottom of the plug hole.

3 If necessary, remove the top plug and add oil until the oil level is even with the bottom of the side plug hole.

4 Install the plug into the drive hub.

NOTICE When removing the drive hub plug on machines before serial number 158, replace the drive hub plug with the new O-ring style drive hub plug (Genie part number 75107).

5 Repeat this procedure for each drive hub.

Drive hub oil	
Capacity	83 fl oz 2.5 liters
Type:	SAE 80W-90 EP multipurpose gear oil

Turntable Rotate Drive Hub

NOTICE The turntable rotate drive hub is located under a fixed turntable cover at the ground controls side of the machine. The cover has to be removed before the following procedure can be completed.

1 Remove the power to platform plug panel upper retaining fasteners and loosen the lower retaining fasteners. Do not disconnect the wiring.

2 Support the cover with a suitable lifting device. Protect the cover from damage.

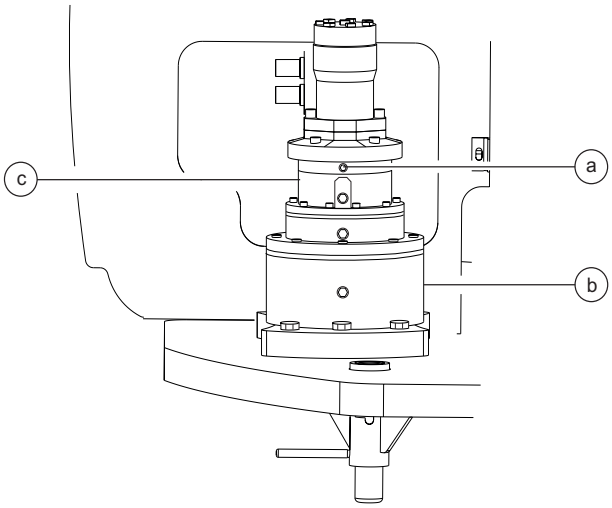
3 Remove the cover retaining fasteners. Remove the cover from the machine.

⚠WARNING Crushing hazard. The turntable cover may become unbalanced and fall when it is removed from the machine if it is not properly supported.

TABLE B PROCEDURES

4 Remove the plug located on the top of the drive brake and check the oil level.

⊙ Result: The oil level should be even with the bottom of the plug hole.



a plug
b turntable rotate drive hub
c drive brake

5 If necessary, add oil until the oil level is even with the bottom of the plug hole.

6 Install the plug into the drive hub.

Turntable rotate drive hub oil	
Capacity (approximately)	92 fl oz 2.7 liters
Type	SAE 80W-90 EP multipurpose gear oil

B-15
Check and Adjust the Engine RPM

Maintaining the engine rpm at the proper setting for both low and high idle is essential to good engine performance and service life. The machine will not operate properly if the rpm is incorrect and continued use may cause component damage.

Deutz models:

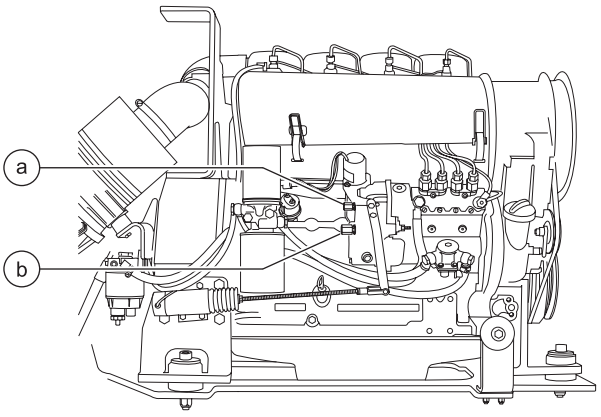
1 Start the engine from the ground controls.

2 Push one of the LCD screen buttons shown until engine rpm is displayed.

⊙ Result: Low idle should be 1300 rpm.

Skip to step 11 if the low idle rpm is correct.

3 Remove the secondary idle adjustment screw cap from the secondary idle adjustment screw on the injection pump. Loosen the locknut.



Deutz engine
a primary idle adjustment screw
b secondary idle adjustment screw

TABLE B PROCEDURES

4 Turn the secondary adjustment screw counterclockwise until the adjustment screw is loose. Tighten the locknut.

NOTICE Be sure the adjustment screw is loosened until there is no spring tension felt.

5 Remove the primary idle adjustment screw cap from the primary idle adjustment screw on the injection pump. Loosen the locknut.

6 Adjust the primary idle adjustment screw until low idle is 1250 rpm. Tighten the locknut.

7 Install the primary idle adjustment screw cap and tighten. Do not over tighten.

8 Loosen the secondary idle adjustment screw locknut.

9 Adjust the secondary adjustment screw until the low idle is 1300 rpm. Tighten the locknut.

10 Install the secondary idle adjustment screw cap and tighten. Do not over tighten.

11 Push and hold the function enable/high speed button. Note the engine rpm on the display.

⊙ Result: High idle should be 2350 rpm.

If the high idle is correct, disregard adjustment step 12.

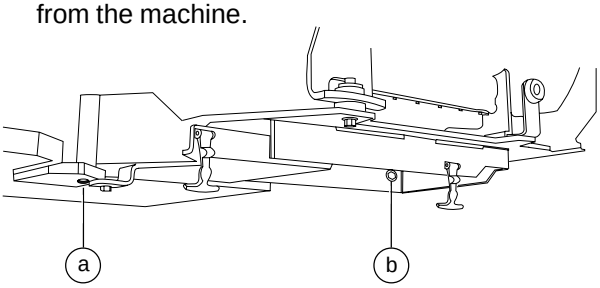
12 Loosen the yoke lock nut. Turn the high idle adjustment nut and solenoid boot counterclockwise to increase the rpm or clockwise to decrease the rpm. Tighten the yoke lock nut and recheck the rpm.

NOTICE Be sure the solenoid fully retracts when activating high idle.

Deutz models	
Low idle	1300 rpm
High idle	2350 rpm

Cummins and Perkins models:

1 Remove the engine pivot plate retaining fastener. Swing the engine pivot plate out away from the machine.



a engine pivot plate anchor hole
b engine pivot plate retaining fastener

2 Locate the engine pivot plate anchor hole at the pivot end of the engine pivot plate.

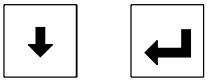
TABLE B PROCEDURES

3 Install the bolt that was just removed into the anchor hole to secure the engine pivot plate from moving.

⚠WARNING Crushing hazard. Failure to install the bolt into the engine pivot plate to secure it from moving could result in death or serious injury.

4 Start the engine from the ground controls.

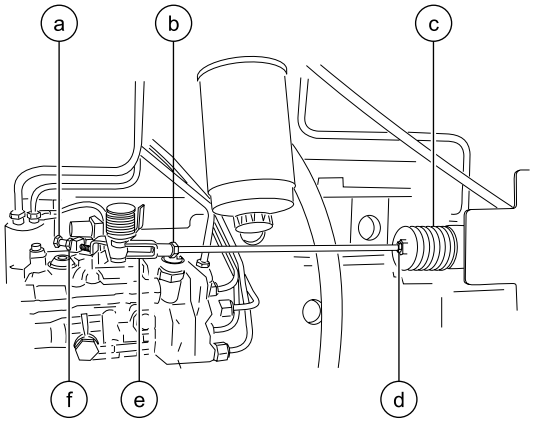
5 Push one of the LCD screen buttons shown until engine rpm is displayed.



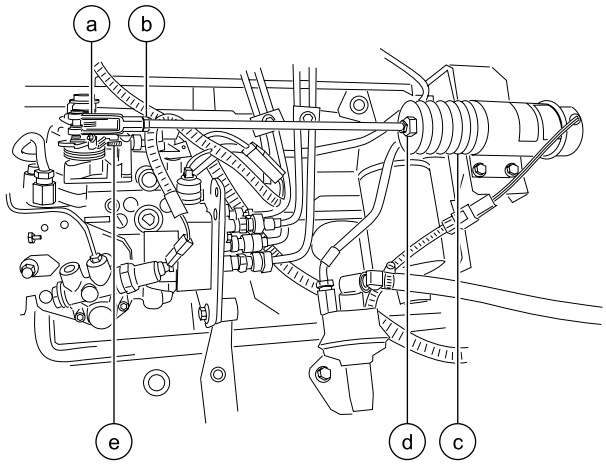
⊙ Result: Low idle should be 1300 rpm.

Skip to step 7 if the low idle rpm is correct.

6 Loosen the low idle lock nut. Turn the low idle adjustment screw clockwise to increase the rpm or counterclockwise to decrease the rpm. Tighten the low idle lock nut and confirm the rpm.



Perkins models
a low idle adjustment screw
b yoke lock nut
c solenoid boot
d high idle adjustment nut
e yoke
f low idle lock nut



Cummins models
a yoke
b yoke lock nut
c solenoid boot
d high idle adjustment nut
e low idle adjustment screw

TABLE B PROCEDURES

7 Push and hold the function enable/high speed button. Note the engine rpm on the display.

⊙ Result: High idle should be 2350 rpm.

Skip to step 9 if the high idle rpm is correct.

8 Loosen the yoke lock nut. Turn the high idle adjustment nut and solenoid boot counterclockwise to increase the rpm or clockwise to decrease the rpm. Tighten the yoke lock nut and recheck the rpm.

NOTICE Be sure the solenoid fully retracts when activating high idle.

9 Remove the engine pivot plate retaining fastener from the engine pivot plate anchor hole at the pivot end of the engine pivot plate.

10 Swing the engine pivot plate in towards the machine.

11 Install the bolt that was just removed into the original hole to secure the engine pivot plate.

⚠WARNING Crushing hazard. Failure to install the bolt into the engine pivot plate to secure it from moving could result in death or serious injury.

Cummins and Perkins models	
Low idle	1300 rpm
High idle	2350 rpm

B-16
Test the Key Switches

Proper key switch action and response is essential to safe machine operation. Failure of either key switch to function properly could cause a hazardous operating situation.

There are two key switches on the machine - the Main key switch and the Service Bypass/Recovery key switch.

The Main key switch controls machine operation from the ground or platform controls.

When the Service Bypass/Recovery key switch is turned to the **service bypass** position, the boom can be raised while the axles are retracted. This feature of the machine is especially helpful for storage purposes or when loading the machine for transport. When the boom is raised with the axles retracted, the boom cannot be rotated past either circle-end wheel.

When the Service Bypass/Recovery key switch is turned and held to the **recovery** position, the auxiliary power unit will turn on and fully retract the boom, and then lower the boom to a stowed position. This feature of the machine is especially helpful if the operator in the platform cannot lower the boom, if the platform controls become inoperative or for returning the machine to a safe position when the safety switches have been tripped.

NOTICE Perform this procedure with the axles retracted.

1 Open the ground controls side turntable side cover.

TABLE B PROCEDURES

2 Pull out the Emergency Stop button to the ON position at both the ground and platform controls.

3 At the ground controls, turn the service bypass/recovery key switch to the RUN position.

4 Turn the main key switch to ground control, start the engine and then turn the key switch to **platform control**.

5 Check any machine function from the **ground controls**.

⊙ Result: The machine functions should **not** operate.

6 Turn the main key switch to ground control.

7 Check any machine function from the **platform controls**.

⊙ Result: The machine functions should **not** operate.

8 Turn the main key switch to the OFF position.

⊙ Result: The engine should stop and no functions should operate.

9 Open the ground controls side turntable side cover.

10 Turn the main key switch to ground control and start the engine.

11 Raise the boom.

⊙ Result: The boom should raise to 10° above horizontal and then stop. The boom should not raise above the limit switch unless both axles are extended.

12 Remove the key from the main key switch and insert the key into the service bypass/recovery key switch.

NOTICE The key switch should remain in the GROUND CONTROL position.

13 Turn the service bypass/recovery key switch to the SERVICE BYPASS position.

14 Raise the boom.

⊙ Result: The boom should raise.

15 Remove the key from the service bypass/recovery key switch and insert the key into the main key switch.

16 Turn the main key switch to the OFF position.

17 Remove the key from the main key switch and insert the key into the service bypass/recovery key switch.

18 Turn and hold the service bypass/recovery key switch to the RECOVERY position.

⊙ Result: The boom should return to the stowed position.

19 Turn the service bypass/recovery key switch to the run position.

20 Remove the key from the service bypass/recovery key switch and insert the key into the main key switch.

21 Turn the main key switch to the OFF position.

22 Close the turntable side cover.

TABLE B PROCEDURES

B-17
Test the Emergency Stop Buttons

Properly functioning Emergency Stop buttons are essential for safe machine operation. An improperly operating Emergency Stop button will fail to shut off power and stop all machine functions, resulting in a hazardous situation for ground and platform personnel.

NOTICE As a safety feature, selecting and operating the ground controls will override the platform controls, including the Emergency Stop button.

1 Start the engine from the ground controls.

2 Push in the Emergency Stop button to the OFF position.

⊙ Result: The engine should shut off and no machine functions should operate.

3 Start the engine from the platform controls.

4 Push down the Emergency Stop button to the OFF position.

⊙ Result: The engine should shut off and no machine functions should operate.

NOTICE The ground Emergency Stop button will stop all machine operation, even if the key switch is switched to platform control.

B-18
Test the Ground Control Override

A properly functioning ground control override is essential to safe machine operation. The ground control override function is intended to allow ground personnel to operate the machine from the ground controls whether or not the Emergency Stop button on the platform controls is in the ON or OFF position. This function is particularly useful if the operator at the platform controls cannot return the boom to the stowed position.

1 Push in the platform Emergency Stop button to the OFF position.

2 Start the engine from the ground controls.

3 Operate each boom function through a partial cycle.

⊙ Result: All boom functions should operate.

B-19
Test the Safety Envelope and Circuits

Testing the machine safety envelope is critical to safe machine operation. If the boom is allowed to operate when a safety switch is not functioning correctly, the machine stability is compromised and may tip over.

1 Raise the boom to approximately 60°.

NOTICE For S-100 or S-105 models, proceed to step 15.

101 feet (30.8 m) Length Safety Switch, LSB2RS

2 Extend the boom to more than 80 feet (24.4 m).

3 Disconnect the 68° proximity switch LSB14AO and install a wire jumper between pin 3 and pin 4 of the deutsch connector.

⊙ Result: ">65 DEG" should be present on the display screen at the ground controls.

4 Activate the function enable/high RPM button and extend the boom to 101 feet (30.8 m).

⊙ Result: The engine should stop and the boom extend function should be disabled.

⊙ Result: If the engine does not stop and the boom continues to extend, the LSB2RS switch is out of adjustment or the wiring circuit is faulty and will need to be replaced or repaired. See Repair Section.

⚠WARNING Bodily injury hazard. If the boom extends to more than 101 feet (30.8 m) without stopping the engine, stop immediately and retract the boom until the boom is extended to less than 100 feet (30.5 m). Failure to retract the boom could result in death or serious injury.

5 Using auxiliary power, retract the boom until the boom is extended to approximately 95 feet (29 m).

6 Remove the wire jumper installed in step 3 and connect the deutsch connector to LSB14AO.

65° Angle Safety Switch, LSB9AS

7 Raise the boom to the maximum angle.

8 Fully extend the boom.

9 Disconnect the 68° proximity switch LSB14AO and install a wire jumper between pin 3 and pin 4 of the deutsch connector.

TABLE B PROCEDURES

10 Start the engine and activate the function enable/high RPM button and lower the boom to 65°.

⊙ Result: The engine should stop and the boom down function should be disabled.

⊙ Result: If the engine does not stop and the boom continues to lower to less than 65°, the LSB9AS switch is out of adjustment or the wiring is faulty and will need to be replaced or repaired. See Repair Section.

⚠WARNING Bodily injury hazard. If the boom lowers to less than 65° without stopping the engine, stop immediately and raise the boom until the boom is elevated to greater than 68°. Failure to raise the boom could result in death or serious injury.

11 Measure the angle of the boom.

⊙ Result: The angle of the boom should be greater than 65°.

12 Using auxiliary power, raise the boom until the boom angle is greater than 68°.

13 Remove the wire jumper installed in step 9 and connect the deutsch connector to LSB14AO.

50° Angle Safety Switch, LSB8AS

14 Raise the boom to approximately 60°.

15 Extend the boom to approximately 95 feet (24.4 m).

16 Disconnect the 53° proximity switch LSB13AO and install a wire jumper between pin 3 and pin 4 of the deutsch connector.

17 Activate the function enable/high RPM button and lower the boom to 50°.

⊙ Result: The engine should stop and the boom down function should be disabled.

⊙ Result: If the engine does not stop and the boom continues to lower to less than 50°, the LSB8AS switch is out of adjustment or the wiring circuit is faulty and will need to be replaced or repaired. See Repair Section.

⚠WARNING Bodily injury hazard. If the boom lowers to less than 50° without stopping the engine, stop immediately and raise the boom until the boom is elevated to greater than 53°. Failure to raise the boom could result in death or serious injury.

18 Measure the angle of the boom.

⊙ Result: the angle of the boom should be greater than 50°.

19 Using auxiliary power, raise the boom until the boom angle is greater than 53°.

20 Remove the wire jumper installed in step 16 and connect the deutsch connector to LSB13AO.

TABLE B PROCEDURES

76 feet (30.8 m) Length Safety Switch, LSB4ES

21 Disconnect the 75 feet (22.9 m) proximity switch LSB3EO and install a wire jumper between pin 3 and pin 4 of the deutsch connector.

NOTICE LSB3EO is located on top of boom tube number 2 at the platform end of the machine.

22 Start the engine and activate the function enable/high RPM button and extend the boom to 76 feet (23.2 m).

⊙ Result: The engine should stop and the boom extend function should be disabled.

⊙ Result: If the engine does not stop and the boom continues to extend, the LSB4ES switch is out of adjustment or the wiring circuit is faulty and will need to be replaced or repaired. See Repair Section.

⚠WARNING Bodily injury hazard. If the boom extends to more than 76 feet (23.2 m) without stopping the engine, stop immediately and retract the boom until the boom is extended to less than 75 feet (22.9 m). Failure to retract the boom could result in death or serious injury.

23 Using auxiliary power, retract the boom until the boom is extended to less than 75 feet (22.9 m).

24 Remove the wire jumper installed in step 21 and connect the harness plug to LSB3EO.

Cable Break Safety Switch, LSB6S

25 Start the engine and activate the function enable/high RPM button and retract the boom until the boom is extended to less than 2 feet (0.6 m).

26 Remove the boom end cover from the pivot end of the boom.

27 Remove the arm from the cable break limit switch LSB6S.

NOTICE LSB6S is located at the end of the boom tubes at the pivot end of the boom.

28 Using the arm just removed from LSB6S, rotate the head of the switch 45 degrees clockwise and activate the function enable/high RPM button and attempt to extend the boom.

⊙ Result: The boom extend function should be disabled.

⊙ Result: If the boom extends, the LSB6S switch or wiring circuit is faulty and will need to be replaced or repaired. See Repair Section.

⚠WARNING Bodily injury hazard. If the boom extends at all, stop immediately and retract the boom until the boom is extended to less than 2 feet (0.6 m). Failure to retract the boom could result in death or serious injury.

TABLE B PROCEDURES

29 Activate the function enable/high RPM button and attempt to retract the boom.

⊙ Result: The boom retract function should be enabled.

⊙ Result: If the boom does not retract, the LSB6S switch or wiring circuit is faulty and will need to be replaced or repaired. See Repair Section.

30 Using the arm just removed from LSB6S, rotate the head of the switch 90 degrees counter clockwise and activate the function enable/high RPM button and attempt to extend the boom.

⊙ Result: The boom extend function should be disabled.

⊙ Result: If the boom extends, the LSB6S switch or wiring circuit is faulty and will need to be replaced or repaired. See Repair Section.

⚠WARNING Bodily injury hazard. If the boom extends at all, stop immediately and retract the boom until the boom is extended to less than 2 feet (0.6 m). Failure to retract the boom could result in death or serious injury.

31 Activate the function enable/high RPM button and attempt to retract the boom.

⊙ Result: The boom retract function should be disabled.

⊙ Result: If the boom retracts, the LSB6S switch or wiring circuit is faulty and will need to be replaced or repaired. See Repair Section.

32 Rotate the head of the switch 45 degrees clockwise and install the arm onto LSB6S.

Axle Extend Safety Switch, LSAX1ES and LSAX2ES and

3 feet (0.9 m) Safety Switch, LSB3RS and

11° Angle Safety Switch, LSB7DS

33 Fully retract and lower the boom to the stowed position.

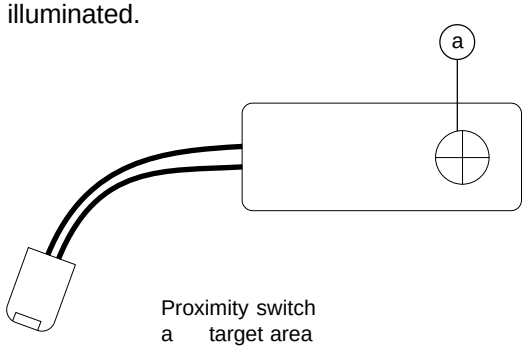
34 Retract both axles approximately 1 foot (0.3 m).

35 Remove the access cover from each axle.

36 Disconnect the square-end axle extend safety switch LSAX1ES and install a wire jumper between pin 3 and pin 4 of the deutsch connector.

37 Place a metal washer over the target area of the axle extend proximity switch LSAX1EO and place a metal washer over the target area of the axle extend proximity switch LSAX2EO to close the contacts.

⊙ Result: The axle extend indicator light at the ground and platform controls should be illuminated.



Proximity switch
a target area

TABLE B PROCEDURES

38 Activate the function enable/high RPM button and attempt to extend the boom.

- Result: The boom should not extend to more than 3 feet (0.9 m).
- Result: If the boom extends to more than 3 feet (0.9 m), the LSAX1ES or LSAX2ES switch are out of adjustment or the wiring circuit is faulty and will need to be replaced or repaired. See Repair Section.

⚠WARNING Bodily injury hazard. If the boom extends to more than 3 feet (0.9 m), stop immediately and retract the boom until the boom is extended to less than 2 feet (0.6 m). Failure to retract the boom could result in death or serious injury.

39 Activate the function enable/high RPM button and attempt to raise the boom.

- Result: The boom should not raise to more than 11°.
- Result: If the boom continues to raise, the LSAX1ES or LSAX2ES switch are out of adjustment or the wiring circuit is faulty and will need to be replaced or repaired. See Repair Section.

⚠WARNING Bodily injury hazard. If the boom raises to more than 11°, stop immediately and lower the boom until the boom is less than 11°. See Repair Section. Failure to retract the boom could result in death or serious injury.

40 Remove the wire jumper installed in step 36 and connect the deutsch connector to LSAX1ES.

41 Disconnect the circle-end axle extend safety switch LSAX2ES and install a wire jumper between pin 3 and pin 4 of the deutsch connector.

42 Activate the function enable/high RPM button and attempt to extend the boom.

- Result: The boom should not extend to more than 3 feet (0.9 m).
- Result: If the boom extends to more than 3 feet (0.9 m), the LSAX1ES or LSAX2ES switch are out of adjustment or the wiring circuit is faulty and will need to be replaced or repaired. See Repair Section.

⚠WARNING Bodily injury hazard. If the boom extends to more than 3 feet (0.9 m), stop immediately and retract the boom until the boom is extended to less than 2 feet (0.6 m). Failure to retract the boom could result in death or serious injury.

TABLE B PROCEDURES

43 Activate the function enable/high RPM button and attempt to raise the boom.

- Result: The boom should not raise to more than 11°.
- Result: If the boom continues to raise, the LSAX1ES or LSAX2ES switch are out of adjustment or the wiring circuit is faulty and will need to be replaced or repaired. See Repair Section.

⚠WARNING Bodily injury hazard. If the boom raises to more than 11°, stop immediately and lower the boom until the boom is less than 11°. Failure to lower the boom could result in death or serious injury.

44 Remove the wire jumper installed in step 41 and connect the deutsch connector to LSAX2ES.

Reverse Load Moment Switch, LSB20LO

45 Activate the function enable/high RPM button and fully retract the boom.

46 Activate the function enable/high RPM button and lower the boom onto the boom rest pad and continue to hold the boom lower function button for 5 seconds.

47 Activate the function enable/high RPM button and extend the boom until ">0" is present on the display screen at the ground controls.

- Result: The alarm should sound and "REVERSE LOAD MOMENT FAULT" should be present on the display screen at the ground controls.
- Result: If the alarm does not sound or if "REVERSE LOAD MOMENT FAULT" is not present on the display screen at the ground controls, the LSB20LO switch is out of adjustment or the wiring circuit is faulty and will need to be replaced or repaired. See Repair Section.

⚠WARNING Bodily injury hazard. If the alarm does not sound or if "REVERSE LOAD MOMENT FAULT" is not present on the display screen at the ground controls, stop immediately and fully retract the boom. Failure to retract the boom could result in death or serious injury.

48 Activate the function enable/high RPM button and raise the boom to clear the alarm.

49 Activate the function enable/high RPM button and lower the boom to the stowed position.

50 Turn the key switch to the OFF position.

B-20
Test the Platform Self-leveling

Automatic platform self-leveling throughout the full cycle of boom raising and lowering is essential for safe machine operation. The platform is maintained level by the communication between the platform level sensor and the turntable level sensor. If the platform becomes out of level, the computer at the ground controls will open the appropriate solenoid valve(s) at the platform manifold to maintain a level platform. A platform self-leveling failure creates an unsafe working condition for platform and ground personnel.

1 Start the engine from the platform controls and extend the axles.

2 Turn the key switch to ground controls.

3 Push and hold a function enable/speed select button and fully retract the boom.

4 Push and hold a function enable/speed select button and adjust the platform to a level position using the platform level up/down buttons.

5 Push and hold a function enable/speed select button and fully raise the boom.

⊙ Result: The platform should remain level at all times to within ±2 degrees.

NOTICE If the platform becomes out of level, the tilt alarm will sound and the Platform Not Level Indicator will flash at the ground controls. The platform level up/down buttons will only work in the direction that will level the platform. Level the platform until the indicator light turns off.

6 Push and hold a function enable/speed select button and fully lower the boom.

⊙ Result: The platform should remain level at all times to within ±2 degrees.

NOTICE If the platform becomes out of level, the tilt alarm will sound and the Platform Not Level Indicator will flash at the ground controls. The platform level up/down buttons will only work in the direction that will level the platform. Level the platform until the indicator light turns off.

TABLE B PROCEDURES

B-21
Test the Horn

A functional horn is essential to safe machine operation. The horn is activated at the platform controls and sounds at the ground as a warning to ground personnel. An improperly functioning horn will prevent the operator from alerting ground personnel of hazards or unsafe conditions.

1 Turn the key switch to platform control and pull out the Emergency Stop button to the ON position at both the ground and platform controls.

2 Push down the horn button at the platform controls.

⊙ Result: The horn should sound.

NOTICE If necessary, the horn can be adjusted to obtain the loudest volume by turning the adjustment screw near the wire terminals on the horn.

B-22
Test the Foot Switch

A properly functioning foot switch is essential to safe machine operation. Machine functions should activate and operate smoothly as long as the foot switch is pressed down, and promptly stop when the foot switch is released. Pressing down the foot switch will also shift the engine into high idle if the engine idle select (rpm) indicates that the rabbit and foot switch symbol is selected. An improperly functioning foot switch can cause an unsafe working condition and endanger platform and ground personnel.

NOTICE The engine should not start if the foot switch is pressed down.

1 Turn the key switch to platform controls and pull out the Emergency Stop button to the ON position at both the ground and platform controls.

2 Press down the foot switch and attempt to start the engine by pushing the engine start button.

⊙ Result: The engine should **not** start.

3 Do not press down the foot switch and start the engine.

4 Do not press down the foot switch and test each machine function control handle, toggle switch or button.

⊙ Result: The machine functions should **not** operate.

5 Press down the foot switch.

6 Activate each machine function control handle, toggle switch or button.

⊙ Result: All functions should operate through a full cycle. Descent alarm (if equipped) should sound while boom is lowering.

B-23
Test the Engine Idle Select

A properly operating engine idle select function is essential to good engine performance and safe machine operation. There are three settings.

Low idle (turtle symbol) allows the operator to control multiple boom and/or drive functions simultaneously, though at reduced speed. This setting maintains a consistent low idle.

High idle (rabbit symbol) allows the operator to control multiple boom and/or drive functions simultaneously. This setting maintains a consistent high idle.

Foot switch activated high idle (rabbit and foot switch symbols) should be used for normal machine operation. This selection activates high idle only when the foot switch is pressed down.

1 Turn the key switch to ground controls.

2 Pull out the Emergency Stop button to the ON position at both the ground and platform controls.

3 Start the engine from the ground controls.

4 Push and hold the high speed function enable/ speed select button (rabbit symbol).

⊙ Result: The engine should change to high idle.

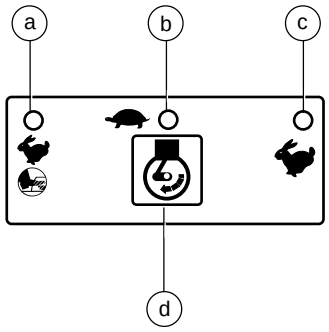
5 Release the high speed function enable/speed select button.

⊙ Result: The engine should return to low idle.

6 Turn the key switch to platform controls.

7 At the platform controls, press the engine idle select button until high idle (rabbit symbol) is selected.

⊙ Result: The engine should change to high idle.



a foot switch activated high idle indicator light
b low idle indicator light
c high idle indicator light
d engine rpm select button

8 Press the engine idle select button until low idle (turtle symbol) is selected.

⊙ Result: The engine should change to low idle.

9 Press the engine idle select button until the foot switch activated high idle (rabbit and foot switch symbol) is selected.

⊙ Result: The engine should **not** change to high idle.

10 Press down the foot switch.

⊙ Result: The engine should change to high idle.

TABLE B PROCEDURES

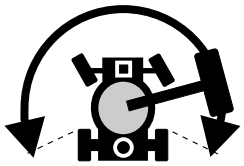
B-24
Test the Drive Enable System

Proper drive enable system operation is essential to safe machine operation. An improperly functioning drive enable system may allow the machine to be moved into an unsafe position. When the boom is rotated past one of the circle-end wheels while the machine is moving, the indicator light will illuminate and the drive function will continue to operate until the drive control joystick is returned to neutral.
The drive enable button must be pressed to reactivate the drive function and should inform the operator that the machine will move in the opposite direction that the drive and steer controls are moved.
When the boom is rotated past one of the circle-end wheels and the machine is not moving, the indicator light will illuminate and the drive function is turned off.

1 Start the engine from the platform controls.

2 Press down the foot switch and lower the boom to the stowed position.

3 Rotate the turntable until the boom moves past one of the circle-end tires.



⊙ Result: The drive enable indicator light should come on while the boom is anywhere in the range shown.

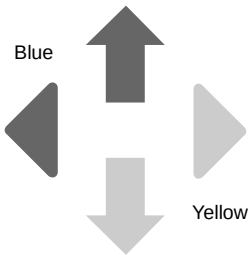
4 Move the drive/steer control handle off center.

⊙ Result: No drive function should operate.

5 Push the drive enable button and slowly move the drive/steer control handle off center.

⊙ Result: The drive function should operate.

⚠CAUTION Collision hazard. Always use the color-coded direction arrows on the platform control panel and the drive chassis to identify which direction the machine will travel.



NOTICE When the drive enable system is in use, the machine may drive in the opposite direction that the drive and steer control handle is moved.

NOTICE If the drive/steer control handle is not moved within two seconds of pushing the drive enable button, the drive function will not operate.

B-25
Test the Drive Brakes

Proper brake action is essential to safe machine operation. The drive brake function should operate smoothly, free of hesitation, jerking and unusual noise. Hydrostatic brakes and hydraulically-released individual wheel brakes can appear to operate normally when they are actually not fully operational.

⚠WARNING Collision hazard. Be sure that the machine is not in free-wheel or partial free-wheel configuration. Refer to B-12 in this section, *Confirm the Proper Brake Configuration*.

NOTICE Select a test area that is firm, level and free of obstructions.

1 Mark a test line on the ground for reference.

2 Start the engine from the platform controls.

3 Press the engine rpm select button until the foot switch activated high idle (rabbit and foot switch symbol) is selected, then lower the boom into the stowed position.

4 Choose a point on the machine; i.e., contact patch of a tire, as a visual reference for use when crossing the test line.

5 Bring the machine to top drive speed before reaching the test line. Release the drive joystick when your reference point on the machine crosses the test line.

6 Measure the distance between the test line and your machine reference point.

Braking, High range paved surface	4 to 6 ft 1.2 to 1.8 m

NOTICE The brakes must be able to hold the machine on any slope it is able to climb.

TABLE B PROCEDURES

B-26
Test the Drive Speed - Stowed Position

Proper drive function movement is essential to safe machine operation. The drive function should respond quickly and smoothly to operator control. Drive performance should also be free of hesitation, jerking and unusual noise over the entire proportionally controlled speed range.

NOTICE Select a test area that is firm, level and free of obstructions.

1 Create start and finish lines by marking two lines on the ground 40 feet (12.2 m) apart.

2 Start the engine from the platform controls.

3 Press the engine rpm select button until the foot switch activated high idle (rabbit and foot switch symbol) is selected, then lower the boom into the stowed position.

4 Choose a point on the machine; i.e., contact patch of a tire, as a visual reference for use when crossing the start and finish lines.

5 Bring the machine to top drive speed before reaching the start line. Begin timing when your reference point on the machine crosses the start line.

6 Continue at full speed and note the time when the machine reference point crosses the finish line.

Drive speed:	40 ft/9.1 sec
stowed position	12.2 m/9.1 sec

B-27
Test the Drive Speed - Raised or Extended Position

Proper drive function movement is essential to safe machine operation. The drive function should respond quickly and smoothly to operator control. Drive performance should also be free of hesitation, jerking and unusual noise over the entire proportionally controlled speed range.

NOTICE Select a test area that is firm, level and free of obstructions.

1 Create start and finish lines by marking two lines on the ground 40 feet (12.2 m) apart and two lines on the ground 10 feet (3 m) apart.

2 Start the engine from the platform controls.

3 Press the engine idle select button until the foot switch activated high idle (rabbit and foot switch symbol) is selected.

4 Raise the boom until the engine rpm switches to low speed.

5 Choose a point on the machine; i.e., contact patch of a tire, as a visual reference for use when crossing the start and finish lines.

6 Bring the machine to top drive speed before reaching the start line. Begin timing when your reference point on the machine crosses the start line.

TABLE B PROCEDURES

7 Continue at full speed and note the time when the machine reference point crosses the finish line.

Drive speed:	40 ft/40 sec
raised position	12.2 m/40 sec

8 Lower the boom below horizontal.

9 Extend the boom approximately 4 feet (1.2 m).

10 Choose a point on the machine; i.e., contact patch of a tire, as a visual reference for use when crossing the start and finish lines.

11 Bring the machine to top drive speed before reaching the start line. Begin timing when your reference point on the machine crosses the start line.

12 Continue at full speed and note the time when the machine reference point crosses the finish line.

Drive speed:	40 ft/40 sec
extended position	12.2 m/40 sec

13 Raise the boom to a horizontal position.

14 Extend the boom until the raise boom LED and envelope alarm are activated.

15 Choose a point on the machine; i.e., contact patch of a tire, as a visual reference for use when crossing the start and finish lines.

16 Bring the machine to top drive speed before reaching the start line. Begin timing when your reference point on the machine crosses the start line.

17 Continue at full speed and note the time when the machine reference point crosses the finish line.

Drive speed:	10 ft/18 sec
fully extended position	3 m/18 sec

TABLE B PROCEDURES

B-28
Test the Alarm Package (if equipped)

The alarm package includes:

- Travel alarm
- Descent alarm
- Travel and descent alarm
- Motion alarm
- Flashing beacon

Alarms and a beacon are installed to alert operators and ground personnel of machine proximity and motion. The alarm package is installed on the turntable covers.

NOTICE The alarms and beacon will operate with the engine running or not running.

1 Turn the key switch to ground control and pull out the Emergency Stop button to the ON position at both the ground and platform controls.

⊙ Result: The flashing beacon should be on and flashing.

2 Push and hold a function enable/speed select button and the boom down button. Hold for a moment and then release them.

⊙ Result: The descent alarm should sound when the boom down button is pressed.

3 Turn the key switch to platform control.

⊙ Result: The flashing beacon should be on and flashing.

4 Press down the foot switch. Move the boom control handle to the DOWN position, hold for a moment and then release it.

⊙ Result: The descent alarm should sound when the control handle is held down.

5 Press down the foot switch. Move the drive control handle off center, hold for a moment and then release it. Move the drive control handle off center in the opposite direction, hold for a moment and then release it.

⊙ Result: The travel alarm should sound when the drive control handle is moved off center in either direction.

B-29
Replace the Engine Oil and Filter - Cummins Models

Periodic replacement of the engine oil and filter is essential to good engine performance. Operating the machine with an improper oil level or neglecting periodic oil and filter changes can damage engine components. A daily check of elapsed machine hours against the hours noted on the oil filter will allow the inspector to anticipate and perform oil and filter changes at the 250 hour interval.

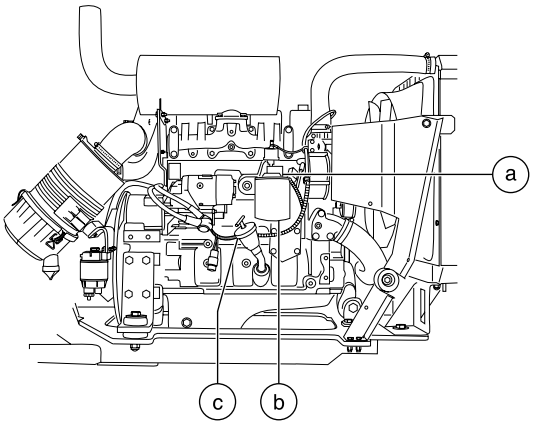
⚠CAUTION Bodily injury hazard. Beware of hot engine parts and oil. Contact with hot engine oil and/or engine parts may cause severe burns.

NOTICE Perform this procedure after warming the engine to normal operating temperature.

1 Remove the oil filler cap from the valve cover.

2 Place a suitable container under the engine tray. See capacity specifications.

3 Remove the drain plug from the oil pan and allow all of the oil from the engine to drain into a suitable container.



Cummins Model
a filter head
b oil filter
c oil filler cap

4 Install the drain plug into the engine and tighten.

5 Use an oil filter wrench and remove the oil filter.

6 Clean inside the filter head.

7 Fill the filter with clean engine oil.

8 Apply a thin layer of clean oil to the new filter gasket (Genie part number 62436). Install the filter and tighten it securely by hand.

9 Clean up any oil that may have spilled during the procedure.

10 Use a permanent ink marker to write the date and number of hours from the hour meter on the filter.

TABLE B PROCEDURES

11 Fill the engine with new oil per specifications and install the oil filler cap.

12 Start the engine from the ground controls and allow the engine to run for 30 seconds. Stop the engine.

13 Check the oil filter and oil drain plug for leaks.

14 Wait 15 minutes after stopping the engine and check the engine oil level on the dipstick. Add oil if needed.

15 Dispose of the used oil and filter properly.

Cummins B3.9L Engine **Oil capacity (including filter)**	11.5 quarts 10.9 liters
Oil filter - Genie part number	62436
Cummins B3.9L Engine **Engine oil viscosity requirements**	
below 68°F / 20°C	5W-30
-13° to 68°F / -25° to 20°C	10W-30
above 15°F / -9°C	15W-40
Use oils meeting API classification CE (labeled CE/SG).	

B-30
Inspect the Fuel Tank Cap Venting System

A free-breathing fuel tank cap is essential for good engine performance and service life. A dirty or clogged fuel tank cap may cause the engine to perform poorly and continued use may cause component damage. Extremely dirty conditions may require that the cap be inspected more often.

⚠DANGER Explosion and fire hazard. Engine fuels are combustible. Perform this procedure in an open, well-ventilated area away from heaters, sparks, flames and lighted tobacco. Always have an approved fire extinguisher within easy reach.

NOTICE Perform this procedure with the engine off.

1 Remove the cap from the fuel tank.

2 Check for proper venting.

⊙ Result: Air should pass through the fuel tank cap.

NOTICE When checking for positive fuel tank cap venting, air should pass freely through the cap.

If the fuel tank cap vent is working properly, proceed to step 5.

3 Using a mild solvent, carefully wash the fuel tank cap. Dry the cap using low pressure compressed air.

4 Repeat step 2.

5 Install the fuel tank cap onto the fuel tank.

B-31
Perform Hydraulic Oil Analysis

See E-1, *Test or Replace the Hydraulic Oil.*

Table C Procedures

C-1
Check the Engine Valve Clearances - Deutz Models

Complete information to perform this procedure is available in the *Deutz 913 Operation Manual*, Deutz part number 0297 9690 (Genie part number 62446).

C-2
Clean the Fuel Pump Strainer - Perkins Models

Cleaning the fuel pump strainer is essential to good engine performance and service life. A dirty or clogged strainer may cause the engine to perform poorly and continued use may cause component damage. Extremely dirty conditions may require that the strainer be cleaned more often.

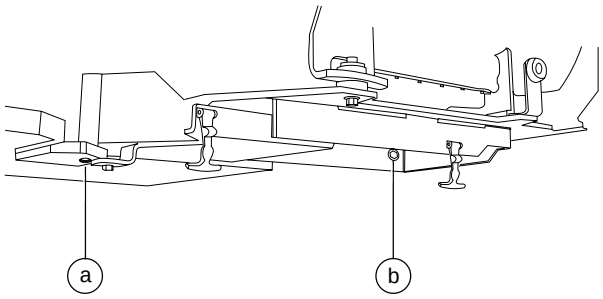
⚠DANGER Explosion and fire hazard. Engine fuels are combustible. Replace the fuel filter in an open, well-ventilated area away from heaters, sparks, flames and lighted tobacco. Always have an approved fire extinguisher within easy reach.

NOTICE Perform this procedure with the engine off.

1 Tag, disconnect and plug the fuel line from the fuel tank at the inline fuel filter/water separator head.

TABLE C PROCEDURES

2 Remove the engine pivot plate retaining fastener. Swing the engine pivot plate out away from the machine.



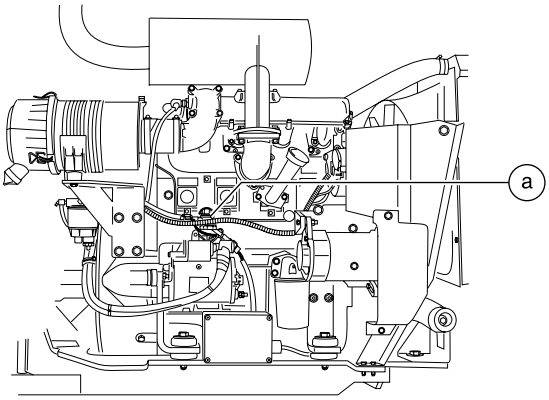
a engine pivot plate anchor hole
b engine pivot plate retaining fastener

3 Locate the engine pivot plate anchor hole at the pivot end of the engine pivot plate.

4 Install the bolt that was just removed into the anchor hole to secure the engine pivot plate from moving.

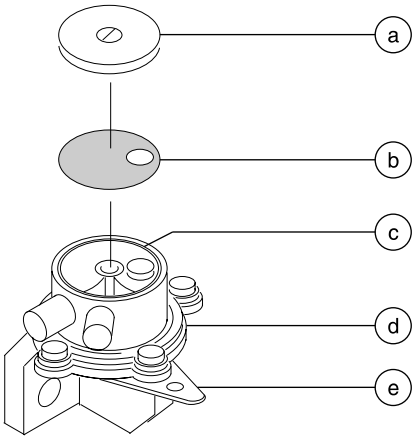
⚠WARNING Crushing hazard. Failure to install the bolt into the engine pivot plate anchor hole to secure it from moving could result in death or serious injury.

5 Locate the fuel lift pump.



a fuel lift pump

6 Remove the fuel lift pump cover retaining fastener. Remove the cover and seal from the top of the fuel lift pump.



a cover with retainer
b strainer
c seal
d pump body
e priming lever

TABLE C PROCEDURES

7 Remove the strainer from the fuel lift pump.

8 Using a mild solvent, carefully wash the inside of the fuel lift pump body.

9 Using a mild solvent, clean the strainer, the seal and the lift pump cover.

10 Install the strainer and seal onto the fuel lift pump body.

11 Install the cover onto the fuel lift pump. Tighten the fuel lift pump cover retaining fastener.

NOTICE Be sure that the lift pump body and cover are installed correctly. An incorrect fit will let air into the fuel system.

12 Clean up any fuel that might have spilled during the procedure.

13 Bleed the fuel system. See Maintenance Procedure B-4, *Replace the Inline Fuel Filter/ Water Separator Element.*

NOTICE Before bleeding the system, fill the fuel tank.

C-3
Replace the Fuel Filter Element - Perkins and Cummins Models

Replacing the diesel fuel filter element is essential for good engine performance and service life. A dirty or clogged filter may cause the engine to perform poorly and continued use may cause component damage. Extremely dirty conditions may required that the filter be replaced more often.

⚠DANGER Explosion and fire hazard. Engine fuels are combustible. Perform this procedure in an open, well-ventilated area away from heaters, sparks, flames and lighted tobacco. Always have an approved fire extinguisher within easy reach.

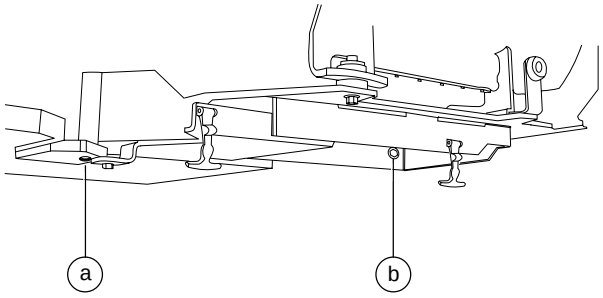
NOTICE Perform this procedure with the engine off.

NOTICE Immediately clean up any fuel that may have spilled during this procedure.

1 Tag, disconnect and plug the fuel line from the fuel tank at the inline fuel filter/water separator head.

TABLE C PROCEDURES

2 Remove the engine pivot plate retaining fastener. Swing the engine pivot plate out away from the machine.



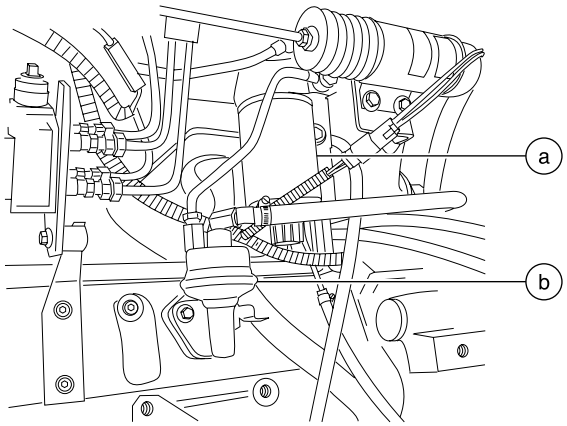
a engine pivot plate anchor hole
b engine pivot plate retaining fastener

3 Locate the engine pivot plate anchor hole at the pivot end of the engine pivot plate.

4 Install the bolt that was just removed into the anchor hole to secure the engine pivot plate from moving.

⚠WARNING Crushing hazard. Failure to install the bolt into the engine pivot plate to secure it from moving could result in death or serious injury.

5 Locate the fuel filter. Thoroughly clean the outside surfaces of the fuel filter assembly.



Cummins model
a fuel filter
b lift pump

6 Remove the fuel filter element and dispose of properly.

7 Clean the inside surfaces of the filter head.

8 Fill the new fuel filter element with clean diesel fuel. Lightly lubricate the O-ring with clean diesel fuel and install the element into the filter head.

NOTICE Failure to fill the fuel filter element with clean diesel fuel before installation will require bleeding the fuel system.

9 Clean up any fuel that may have spilled during this procedure.

10 Use a permanent ink marker to write the date and number of hours from the hour meter on the filter.

11 Install the fuel tank line onto the inline fuel filter/ water separator head. Tighten the hose clamp.

12 Bleed the fuel system. See Maintenance Procedure B-4, *Replace the Inline Fuel Filter/ Water Separator Element.*

NOTICE Before bleeding the system, fill the fuel tank.

Fuel filter elements - Genie part numbers	
Perkins models	62426
Cummins models	62435

TABLE C PROCEDURES

C-4
Replace the Engine Oil and Filter - Deutz and Perkins Models

Periodic replacement of the engine oil and filter is essential to good engine performance. Operating the machine with an improper oil level or neglecting periodic oil and filter changes can damage engine components. A frequent check of elapsed machine hours against the hours noted on the oil filter will allow the inspector to anticipate and perform oil and filter changes at the 500 hour interval.

⚠CAUTION Bodily injury hazard. Beware of hot engine parts and oil. Contact with hot engine oil and/or engine parts may cause severe burns.

NOTICE Perform this procedure after warming the engine to normal operating temperature.

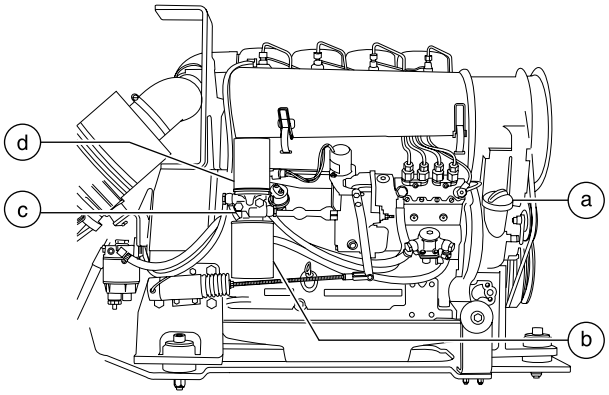
1 Remove the oil filler cap.

2 Remove the drain plug and sealing washer from the oil pan and allow all of the oil from the engine to drain into a suitable container. See capacity specifications.

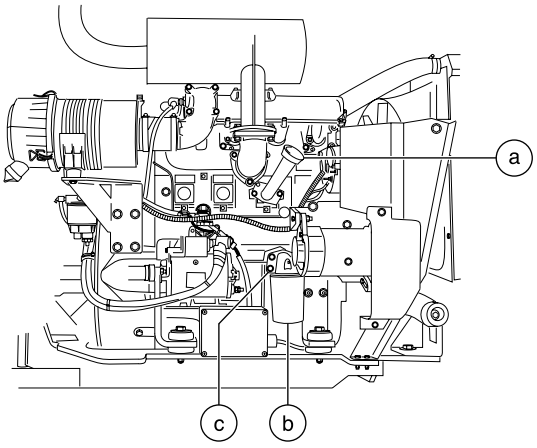
NOTICE Be sure that the sealing washer is not damaged.

3 Install the sealing washer onto the drain plug and tighten the drain plug.

4 Use an oil filter wrench to remove the oil filter.



Deutz model
a oil filler cap
b oil filter
c filter head
d fuel filter



Perkins model
a oil filler cap
b oil filter
c filter head

TABLE C PROCEDURES

5 Clean inside the filter head.

6 Fill the filter with clean engine oil.

7 Apply a thin layer of clean engine oil to the new filter gasket. Install the filter and tighten it securely by hand.

8 Clean up any oil that may have spilled during this procedure.

9 Use a permanent ink marker to write the date and number of hours from the hour meter on the filter.

10 Fill the engine with new oil per specifications and install the oil filler cap.

11 Start the engine from the ground controls and allow the engine to run for 30 seconds. Stop the engine.

12 Check the oil filter and oil drain plug for leaks.

13 Wait 15 minutes after stopping the engine and check the engine oil level on the dipstick. Add oil if needed.

14 Dispose of the used oil and filter properly.

Deutz F4L 913 Engine **Oil capacity (including filter)**	14.3 quarts 13.5 liters

Deutz F4L 913 Engine **Engine oil viscosity requirements**	
below 60°F / 15.5°C (synthetic)	5W-30
-10°F to 90°F / -23°C to 32°C	10W-40
above -4°F / -20°C	15W-40
Engine oil should have properties of API classification CC/SE or CC/SF grades OR ACEA classification E1-96.	
Oil filter - Genie part number	62430

Perkins 1004-42 Engine **Oil capacity (including filter)**	8.9 quarts 8.4 liters

Perkins 1004-42 Engine **Engine oil viscosity requirements**	
below 32°F / 0°C	0W
-13°F to 68°F / -25°C to 20°C	5W-20
10°F to 104°F / -12°C to 40°C	10W-30
14°F to 122°F / -10°C to 50°C	15W-40
above 23°F / -5°C	20W-50
Engine oil should have properties of API classification CF4 grade OR ACEA classification E3.	
Oil filter - Genie part number	62427

TABLE C PROCEDURES

C-5
Check the Specific Gravity of the Coolant - Liquid Cooled Models

The quality of the coolant which is used can have a great effect on the efficiency and life of the cooling system. Old or dirty coolant may cause the engine to perform poorly and continued use may cause engine damage.

⚠CAUTION Burn injury hazard. Beware of hot engine parts and coolant. Contact with hot engine parts and/or coolant may cause severe burns.

NOTICE Perform this procedure with the machine on level ground.

NOTICE Perform this procedure with the engine off.

1 Put on protective clothing and eyewear.

2 Operate the engine until it is warm enough to open the thermostat. Continue to run the engine until the coolant has circulated the cooling system.

3 Stop the engine.

4 Allow the engine to cool until the temperature of the coolant is below 140° F (60° C).

⚠CAUTION Burn hazard. Beware of hot coolant. Contact with hot coolant may cause severe burns.

5 Remove the radiator filler cap. Inspect the cap for wear. Replace as necessary.

⚠CAUTION Burn hazard. Allow any pressure to dissipate gradually before removing the radiator cap.

6 Drain some coolant from the cooling system into a suitable container.

7 Use a special coolant hydrometer to check the temperature and the specific gravity of the coolant.

8 Adjust the mixture of the coolant as necessary to protect the engine to -34°F (-37°C).

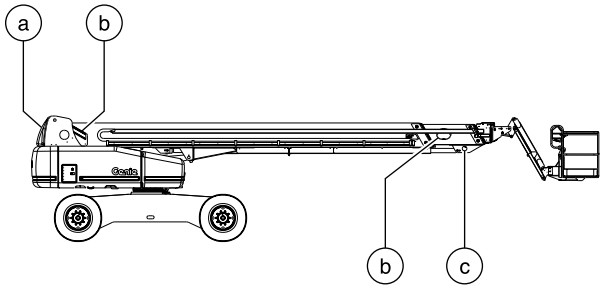
9 Install the radiator filler cap.

C-6
Inspect the Boom Extend/Retract Cables

The boom extend/retract cables are responsible for the extension and retraction of the number 3 boom tube. Inspecting for foreign objects, damage and/or improper adjustment of the boom extend/retract cables on a regular basis is essential to good machine performance and safe machine operation. The boom extend and retract functions should operate smoothly and be free of hesitation, jerking and unusual noise.

NOTICE Perform this procedure with the boom in the stowed position and the engine off.

1 Remove the boom end cover from the pivot end of the boom.



a boom end cover
b side access covers
c cable ends (located underneath the boom)

2 Remove the retaining fasteners from the access covers located on the side of the boom at the platform end of the machine. Remove the covers.

3 Visually inspect the cables and components through both inspection holes for the following:

- Frayed or broken wire strands
- Kinks or crushed cables
- Corrosion
- Paint or foreign materials on the cables
- Split or cracked cable ends
- Cables are on all pulleys
- Cables have equal tension
- Cables at end of adjustment range
- No Broken or damaged pulleys
- No Unusual or excessive pulley wear
- All fasteners in place and secure

NOTICE A flashlight and inspection mirror may be necessary to thoroughly inspect the above items.

NOTICE A pulley groove gauge should be used to check the condition of the pulleys.

4 Replace the cables if any damage is found.

5 At the pivot end of the boom, visually inspect for the following:

- The red locking bracket is securely installed over the cable adjustment bolts

6 Install the plastic cover at the pivot end of the boom and access panels on the sides of the boom.

7 Start the engine from the platform controls.

TABLE C PROCEDURES

8 Extend the boom approximately 2 feet (0.6 m).

9 Retract the boom. While retracting the boom, visually inspect the number 2 and number 3 boom tubes.

⊙ Result: The number 2 should not move more than 1/2 inch (13 mm) before the number 3 boom tube begins to retract.

NOTICE If the number 2 boom tube moves more than 1/2 inch (13 mm) before the number 3 boom tube begins to retract, the boom extend/retract cables need to be adjusted. See Repair Procedure 4-5, *How to Adjust the Boom Extend/Retract Cables.*

Table D Procedures

D-1
Check the Boom Wear Pads

Maintaining the boom wear pads in good condition is essential to safe machine operation. Wear pads are placed on boom tube surfaces to provide a low friction, replaceable wear pad between moving parts. Improperly shimmed wear pads or continued use of worn out wear pads may result in component damage and unsafe operating conditions.

1 Start the engine from the ground controls.

2 Raise the end of the boom to a comfortable working height (chest high). Stop the engine.

3 Remove the protective covers from the platform end of each boom tube.

4 Measure each wear pad.

Boom wear pad specifications	1/2 inch
Minimum thickness	12.7 mm

5 Replace any wear pad if it is less than specification. If a wear pad is not less than specification, shim as necessary to obtain zero clearance.

NOTICE If the wear pads are still within specification, refer to Repair Section 4-2, *How to Shim the Boom.*

6 Remove the boom end cover retaining fasteners at the pivot end of the boom. Remove the boom end cover from the machine.

7 Remove the boom side inspection cover retaining fasteners from the boom at the pivot end of the boom. Remove the boom inspection cover from the machine.

8 Repeat step 7 until all boom inspection covers at the pivot end of the boom are removed.

9 Measure each wear pad at the pivot end of the boom.

Boom wear pad specifications	1/2 inch
Minimum thickness	12.7 mm

10 Replace any wear pad if it is less than specification. If a wear pad is not less than specification, shim as necessary to obtain zero clearance.

11 Extend and retract the boom through the entire range of motion to check for tight spots that may cause binding of the boom tubes.

NOTICE Always maintain squareness between the outer and inner boom tubes.

TABLE D PROCEDURES

D-2
Check the Extendable Axle Wear Pads

Maintaining the axle wear pads in good condition is essential to safe machine operation. Wear pads are placed on axle tube surfaces to provide a low friction, replaceable wear pad between moving parts. Improperly shimmed wear pads or continued use of worn out wear pads may result in component damage and unsafe operating conditions.

NOTICE Be sure that the axles are fully extended before attempting this procedure.

1 Start the engine from the platform controls and extend the axles.

2 Measure each wear pad.

Extendable axle wear pad specifications	7/16 inch
Minimum thickness	11.1 mm

3 Replace any wear pad if it is less than specification. If a wear pad is not less than specification, shim as necessary to obtain zero clearance and zero drag.

NOTICE If the wear pads are still within specification, refer to Repair Section 15-1, *How to Shim the Extendable Axles.*

4 Extend and retract the axles through the entire range of motion to check for tight spots that may cause binding or scraping of the axle tubes.

NOTICE Always maintain squareness between the outer and inner axle tubes.

D-3
Check the Free-wheel Configuration

Proper use of the free-wheel configuration is essential to safe machine operation. The free-wheel configuration is used primarily for towing. A machine configured to free-wheel without operator knowledge may cause death or serious injury and property damage.

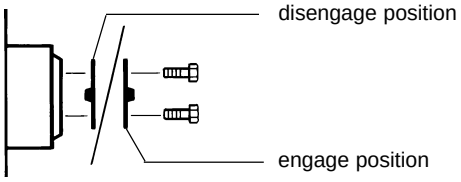
⚠WARNING Collision hazard. Select a work site that is firm and level.

1 Chock both of the wheels at the circle-end of the machine to prevent the machine from rolling.

2 Center a lifting jack of ample capacity (30,000 lbs/15000 kg) under the drive chassis between the wheels at the square-end of the machine.

3 Lift the wheels off the ground and place blocks under the drive chassis for support.

4 Disengage the drive hubs by turning over the drive hub disconnect caps on each wheel hub at the square-end of the machine.



5 Manually rotate each wheel at the square-end of the machine.

⊙ Result: Each wheel at the square-end of the machine should rotate with minimum effort.

6 Re-engage the drive hubs by turning over the hub disconnect caps. Rotate each wheel to check for engagement. Lift the machine and remove the blocks. Lower the machine.

⚠WARNING Collision hazard. Failure to re-engage the drive hubs could result in death or serious injury and property damage.

7 Chock both of the wheels at the square-end of the machine to prevent the machine from rolling.

8 Center a lifting jack of ample capacity (30,000 lbs/15000 kg) under the drive chassis between the wheels at the circle-end of the machine.

9 Lift the wheels off the ground and place jack stands under the drive chassis for support.

10 Disengage the drive hubs by turning over the drive hub disconnect caps on each wheel hub at the circle-end of the machine.

11 Manually rotate each wheel at the circle-end of the machine.

⊙ Result: Each wheel at the circle-end of the machine should rotate with minimum effort.

12 Re-engage the drive hubs by turning over the hub disconnect caps. Rotate each wheel to check for engagement. Lift the machine and remove the jack stands. Lower the machine.

⚠WARNING Collision hazard. Failure to re-engage the drive hubs could result in death or serious injury and property damage.

TABLE D PROCEDURES

D-4
Check the Turntable Rotation Bearing Bolts

Maintaining proper torque on the turntable bearing bolts is essential to safe machine operation. Improper bolt torque could result in an unsafe operating condition and component damage.

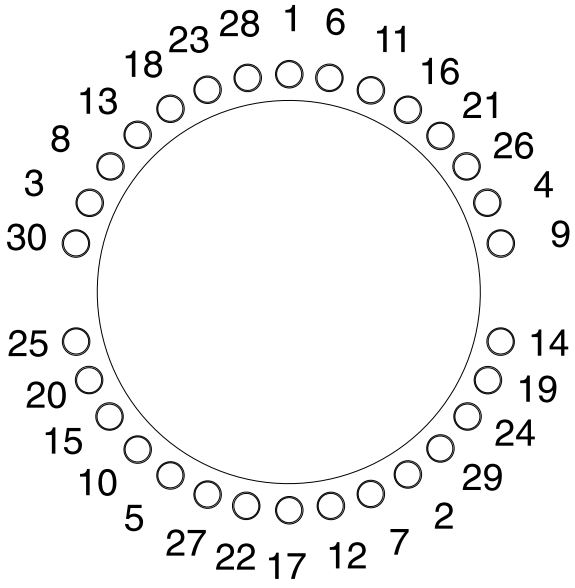
1 Raise the boom to a horizontal position.

2 Install a safety chock (Genie part number 75097) onto the hydraulic lift cylinder extension rod. Carefully lower the boom onto the lift cylinder safety chock.

⚠WARNING Crushing hazard. Keep hands away from the cylinder and all moving parts when lowering the boom.

NOTICE The lift cylinder safety chock is available through Genie (Genie part number 75097).

3 Be sure that each turntable rotation bearing mounting bolt above the turntable is torqued in sequence to 190 ft-lbs (258 Nm).



Bolt torque sequence

4 Raise the boom to a horizontal position.

5 Remove the safety chock and lower the boom to the stowed position.

6 Be sure that each turntable rotation bearing mounting bolt under the drive chassis is torqued in sequence to 190 ft-lbs (258 Nm).

NOTICE The turntable rotation bearing bolt torque sequence is the same from above the turntable and below the drive chassis.

D-5
Check the Turntable Rotation Gear Backlash

Properly adjusted turntable rotation gear backlash is essential for good machine performance and service life. Improperly adjusted turntable rotation gear backlash will cause the machine to perform poorly and continued use will cause component damage. The turntable rotation drive hub is mounted on the swing chassis behind the fixed side cover at the ground controls side.

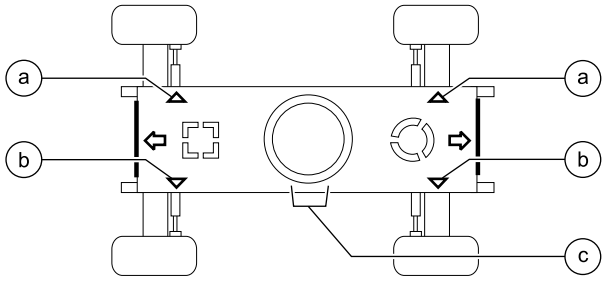
NOTICE Be sure to check the backlash with the machine fully stowed and the counterweight at the square end of the machine.

NOTICE Select a test area that is firm, level and free of obstructions.

NOTICE This procedure may require two people.

1 Rotate the turntable in a clockwise direction until the turntable rotation motor pinion gear is directly over the 3 red-painted gear teeth on the turntable rotation bearing.

NOTICE The 3 red-painted gear teeth on the turntable rotation bearing are the teeth closest to the blue arrow side of the drive chassis.



a yellow arrow
a blue arrow
b red painted teeth

2 Mark a test line approximately two feet long (0.6 m), perpendicular to the length to the boom, on the ground under the platform and near the platform reference point selected.

NOTICE Choose a point on the machine platform; i.e., outside edge of the platform, as a visual reference for use while performing this procedure.

3 Apply approximately 20 lbs (89 N) of side force to the platform, moving the platform to one side as far as it will go. Mark a reference point on the test line where the platform stops moving.

4 Apply approximately 20 lbs (89 N) of side force to the platform, moving the platform in the opposite direction as far as it will go. Mark a reference point on the test line where the platform stops moving.

5 Measure the distance on the test line between the two reference marks.

⊙ Result: The platform movement should not exceed 2 inches (51 mm). If the platform movement exceeds 2 inches (51 mm), proceed to step 6.

Turntable rotation gear backlash	
Maximum side to side movement at platform	2 inches 51 mm

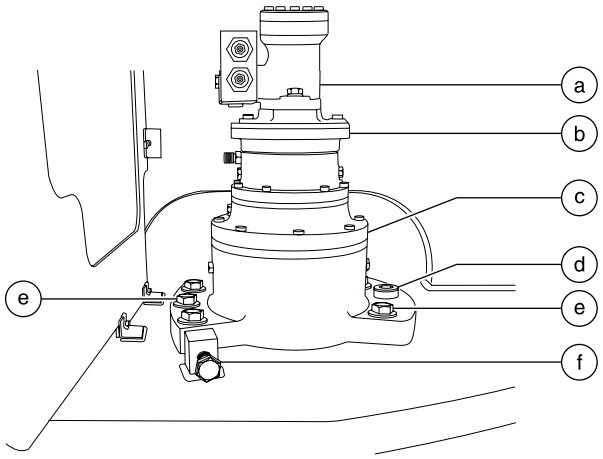
TABLE D PROCEDURES

Adjusting the backlash:

6 Remove the ground control side fixed turntable cover from the machine. Refer to Repair Section 5-1, *How to Remove a Fixed Turntable Cover.*

7 Loosen the turntable drive hub mounting bolts. Do not remove them.

NOTICE It may be necessary to raise the boom slightly to access all the turntable drive hub mounting bolts.



a motor
b brake
c drive hub
d pivot bolt
e mounting bolt
f adjustment bolt with lock nut

8 Loosen the turntable drive hub pivot bolt. Do not remove it.

9 Loosen the lock nut on the turntable drive hub adjustment bolt.

10 Tighten the turntable drive hub adjustment bolt until the turntable drive hub gear is fully engaged and tight into the turntable rotate gear.

11 Turn the adjustment bolt 1/4 turn counterclockwise. Tighten the lock nut on the adjustment bolt.

12 Rotate the drive hub away from the turntable until it contacts the adjustment bolt. Torque the drive hub mounting bolts to 210 ft-lbs (283 Nm).

13 Torque the turntable rotate pivot bolt to 210 ft-lbs (283 Nm).

14 Rotate the turntable through an entire rotation. Check for tight spots that could cause binding. Readjust if necessary.

15 Install the ground control side fixed turntable cover onto the machine and tighten the retaining fasteners.

TABLE D PROCEDURES

D-6
Grease the Turntable Rotation Bearing and Rotate Gear

Yearly application of lubrication to the turntable bearing and rotate gear is essential to good machine performance and service life. Continued use of an improperly greased bearing and gear will result in component damage.

1 Remove the turntable rotation gear cover retaining fasteners and remove the gear cover from the machine.

2 Open the ground controls side turntable side cover.

3 Locate the grease fitting below the ground control box.

4 Pump grease into the turntable rotation bearing. Rotate the turntable in increments of 4 to 5 inches (10 to 13 cm) at a time and repeat this step until the entire bearing has been greased.

5 Apply grease to each tooth of the drive gear, located under the turntable.

6 Install the turntable rotation gear cover and retaining fasteners onto the machine.

⚠WARNING Bodily injury hazard. Contact with the turntable rotation gear could result in serious injury. Do not operate the machine if the turntable rotation gear cover is not installed.

Grease type	Multi-purpose grease

D-7
Replace the Drive Hub Oil

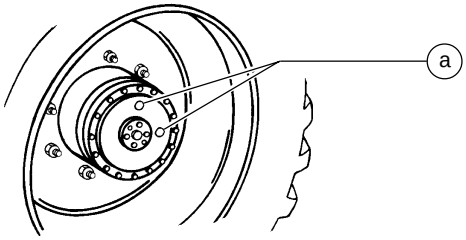
Replacing the drive hub oil is essential for good machine performance and service life. Failure to replace the drive hub oil at yearly intervals may cause the machine to perform poorly and continued use may cause component damage.

Drive Hubs:

1 Select the drive hub to be serviced. Drive the machine until one of the two drain plugs is at the lowest point.

2 Remove both plugs and drain the oil into a suitable container.

3 Drive the machine until one plug hole is at the top and the other is at 90°.



a drive hub plugs

4 Fill the hub with oil from the top hole until the oil level is even with the bottom of the side hole.

TABLE D PROCEDURES

5 Install the plug into the drive hub.

NOTICE When removing the drive hub plug on machines before serial number 158, replace the drive hub plug with the new O-ring style drive hub plug (Genie part number 75107).

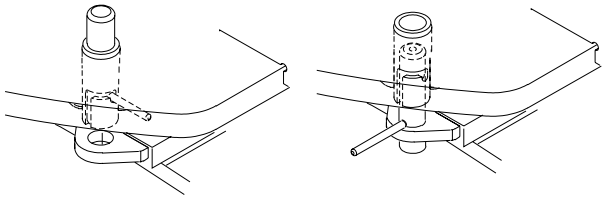
6 Repeat steps 1 through 5 for all the other drive hubs.

Drive hub oil	
Capacity	83 fl oz 2.5 liters
Type:	SAE 80W-90 EP multipurpose gear oil

Turntable Rotate Drive Hub:

NOTICE When removing a hose assembly or fitting, the O-ring on the fitting and/or hose end must be replaced and then torqued to specification during installation.
Refer to Section Two, *Hydraulic Hose and Fitting Torque Specifications.*

1 Secure the turntable from rotating with the turntable rotation lock pin.



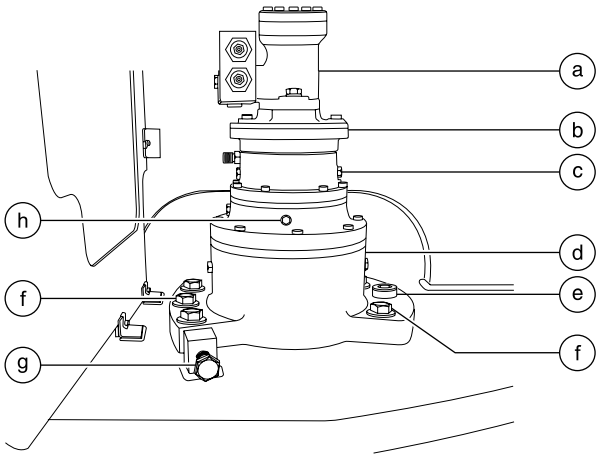
unlocked locked

2 Remove the ground control side fixed turntable cover. Refer to Repair Section 5-1, *How to Remove a Fixed Turntable Cover.*

3 Tag, disconnect and plug the turntable rotate drive motor hoses at the turntable rotate drive motor and the turntable rotate drive brake hoses at the turntable rotate drive brake. Cap the fittings.

⚠WARNING Bodily injury hazard. Spraying hydraulic oil can penetrate and burn skin. Loosen hydraulic connections very slowly to allow the oil pressure to dissipate gradually. Do not allow oil to squirt or spray.

CAUTION Component damage hazard. Hoses can be damaged if they are kinked or pinched.



a drive motor
b drive brake
c brake drain plug
d drive hub
e pivot bolt
f mounting bolt
g adjustment bolt with lock nut
h drive hub drain plug

TABLE D PROCEDURES

4 Remove the turntable rotate drive hub mounting bolts and pivot bolt. Remove the turntable rotate drive hub with a suitable lifting device of ample capacity.

⚠WARNING Crushing hazard. The turntable rotate drive hub may become unbalanced and fall when it is removed from the machine if it is not properly supported.

5 Remove the drive brake drain plug from the side of the drive brake and drain the oil from the drive brake into a suitable container. See capacity specifications.

6 Remove the drive hub drain plug from the side of the drive hub and drain the oil from the drive hub into a suitable container. See capacity specifications.

7 Fill the drive hub with oil until the oil is level with the bottom of the threads. Install the drain plug and tighten.

NOTICE When removing the drive brake plug on machines before serial number 158, replace the drive hub plug with the new O-ring style drive hub plug (Genie part number 75107).

8 Fill the drive brake with oil until the oil is level with the bottom of the threads. Install the drain plug and tighten.

NOTICE When removing the drive hub plug on machines before serial number 158, replace the drive hub plug with the new O-ring style drive hub plug (Genie part number 75107).

9 Install the drive hub onto the machine. Install the pivot bolt and the mounting bolts and tighten the bolts until they are finger tight.

10 Install the turntable rotate drive motor hoses into the turntable rotate drive motor and install the turntable rotate drive brake hose into the turntable rotate drive brake.

CAUTION Component damage hazard. Hoses can be damaged if they are kinked or pinched.

11 Adjust the turntable rotation gear backlash. See D-5, *Check the Turntable Rotation Gear Backlash.*

12 Install the ground control side fixed turntable cover onto the machine and tighten the retaining fasteners.

Turntable rotate drive hub oil	
Capacity	92 fl oz 2.7 liters
Type:	SAE 80W-90 EP multipurpose gear oil

TABLE D PROCEDURES

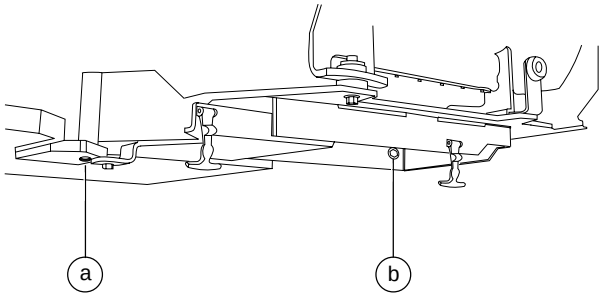
D-8
Inspect the Engine Belt(s) - Cummins Models

Maintaining the engine belt is essential to good engine performance and service life. The machine will not operate properly with a loose or defective belt and continued use may cause component damage.

⚠WARNING Bodily injury hazard. Do not inspect while the engine is running. Remove the key to secure from operation.

⚠CAUTION Bodily injury hazard. Beware of hot engine components. Contact with hot engine components may cause severe burns.

1 Remove the engine pivot plate retaining fastener. Swing the engine pivot plate out away from the machine.



a engine pivot plate anchor hole
b engine pivot plate retaining fastener

2 Locate the engine pivot plate anchor hole at the pivot end of the engine pivot plate.

3 Install the bolt that was just removed into the anchor hole to secure the engine pivot plate from moving.

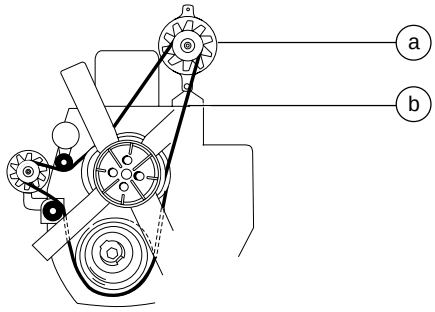
⚠WARNING Crushing hazard. Failure to install the bolt into the engine pivot plate anchor hole to secure it from moving could result in death or serious injury.

If the machine is not equipped with the generator option, proceed to step 7.

4 Loosen the generator and remove the generator belt.

5 Inspect the generator belt for:

- Cracking
- Glazing
- Separation
- Breaks



a generator (option)
b generator belt

TABLE D PROCEDURES

6 Replace the belt if any damage is found.

7 Lift the belt tensioner and remove the engine belt.

8 Inspect the engine belt for:

· Cracking

· Glazing

· Separation

· Breaks

9 Replace the belt if any damage is found.

10 Check the torque of the belt tensioner retaining fastener. Torque to 32 ft-lbs (43 Nm).

11 Lift the belt tensioner and install the engine belt.

NOTICE Cummins engines are equipped with a serpentine belt and incorporate a self adjusting pulley tensioner. No adjustment is required.

If the machine is not equipped with the generator option, proceed to step 13.

12 Install the generator belt.

13 Remove the engine pivot plate retaining fastener from the engine pivot plate anchor hole at the pivot end of the engine pivot plate.

14 Swing the engine pivot plate in towards the machine.

15 Install the bolt that was just removed into the original hole to secure the engine pivot plate.

⚠WARNING Crushing hazard. Failure to install the bolt into the engine pivot plate to secure it from moving could result in death or serious injury.

Belts - Genie part numbers	
Cummins Engine Belt	62437
Cummins Generator Belt	60725

Generator belt deflection	$^3/_8$ inch to $^1/_2$ inch 9 mm to 12 mm

TABLE D PROCEDURES

D-9
Replace the Fuel Filter - Deutz Models

Replacing the diesel fuel filter is essential to good engine performance and service life. A dirty or clogged filter may cause the engine to perform poorly and continued use may cause component damage. Extremely dirty conditions may require that the filter be replaced more often.

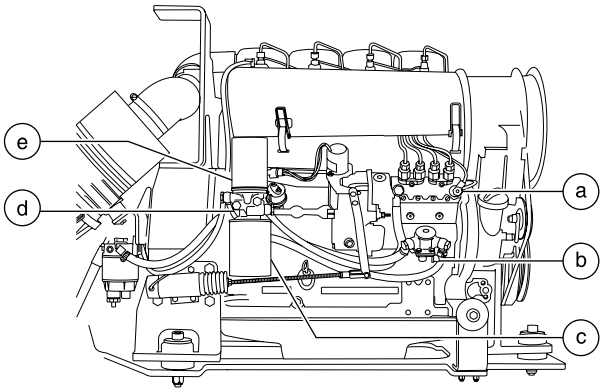
⚠DANGER Explosion and fire hazard. Engine fuels are combustible. Replace the fuel filter in an open, well-ventilated area away from heaters, sparks, flames and lighted tobacco. Always have an approved fire extinguisher within easy reach.

NOTICE Perform this procedure with the engine off.

NOTICE Immediately clean up any fuel that may have spilled during this procedure.

1 Tag, disconnect and plug the fuel hose from the fuel tank at the inline fuel filter/water separator head.

2 Place a suitable container beneath the fuel filter.



a overflow valve
b fuel lift pump priming lever
c oil filter
d filter head
e fuel filter

3 Loosen the fuel filter with a filter wrench and drain the fuel into a suitable container. Remove the fuel filter from the machine when the fuel flow has slowed or stopped.

4 Apply a thin layer of clean diesel fuel to the new fuel filter gasket (Genie part number 29560).

5 Install the new filter and tighten it securely by hand.

6 Clean up any diesel fuel that might have spilled during the procedure.

7 Use a permanent ink marker to write the date and number of hours from the hour meter on the filter.

8 Install the fuel tank hose onto the inline fuel filter/water separator head. Tighten the hose clamp.

9 Bleed the fuel system. See Maintenance Procedure B-4, *Replace the Inline Fuel Filter/ Water Separator Element.*

NOTICE Before bleeding the system, fill the fuel tank.

D-10
Check the Engine Valve Clearances - Perkins and Cummins Models

Perkins models:

Complete information to perform this procedure is available in the *Perkins User's Handbook,* Perkins part number TPD 1349 (Genie part number 62447).

Cummins models:

Complete information to perform this procedure is available in the *Cummins Operation and Maintenance Manual,* Cummins part number 3810205 (Genie part number 62448).

Table E Procedures

E-1
Test or Replace the Hydraulic Oil

Replacement or testing of the hydraulic oil is essential for good machine performance and service life. Dirty oil and suction strainers may cause the machine to perform poorly and continued use may cause component damage. Extremely dirty conditions may require oil changes to be performed more frequently.

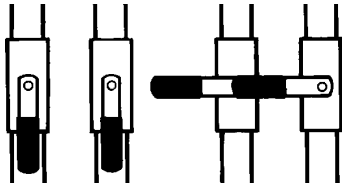
NOTICE The machine uses Dexron equivalent hydraulic oil. Before replacing the hydraulic oil, the oil may be tested by an oil distributor for specific levels of contamination to verify that changing the oil is necessary. **If the hydraulic oil is not replaced at the two year inspection, test the oil quarterly. Replace the oil when it fails the test.**

NOTICE Perform this procedure with the boom in the stowed position and the axles extended.

NOTICE When removing a hose assembly or fitting, the O-ring on the fitting and/or hose end must be replaced and then torqued to specification during installation.
Refer to Section Two, *Hydraulic Hose and Fitting Torque Specifications.*

1 Remove the ground controls side turntable side cover. Refer to Repair Section 5-1, *How to Remove a Hinged Turntable Cover.*

2 Close the three hydraulic shutoff valves located at the hydraulic tank.



open closed

CAUTION Component damage hazard. The engine must not be started with the hydraulic tank shutoff valves in the CLOSED position or component damage will occur. If the tank valves are closed, remove the key from the key switch and tag the machine to inform personnel of the condition.

3 Remove the drain plug from the hydraulic tank and allow all of the oil from the tank to drain into a suitable container. See capacity specifications.

4 Remove the ground controls support bracket retaining fasteners and remove the ground control box assembly from the machine.

CAUTION Component damage hazard. Be sure to properly support the ground control box. Do not allow the ground control box to hang by the wiring or cables.

5 Tag and disconnect the wires from the horn. Remove the horn retaining fasteners and remove the horn from the machine.

TABLE E PROCEDURES

6 Tag, disconnect and plug the two suction hoses that are attached to the hydraulic tank shutoff valves. Cap the fittings.

7 Tag, disconnect and plug the supply hose for the auxiliary power unit. Cap the fitting on the hydraulic tank.

8 Tag, disconnect and plug the case drain hose at the return filter. Cap the fitting on the return filter head.

9 Disconnect and plug the T-fitting located at the return filter with the 2 hoses connected to it. Cap the fitting on the return filter head.

10 Remove the hydraulic tank breather filter from the tank.

11 Remove the hydraulic tank strap retaining fasteners and remove the hydraulic tank straps from the machine.

12 Support the hydraulic tank with 2 lifting straps. Place one lifting strap at each end of the tank and attach the lifting straps to an overhead crane.

13 Remove the hydraulic tank from the machine.

⚠WARNING Crushing hazard. The hydraulic tank could become unbalanced and fall if it is not properly supported and secured to the overhead crane when it is removed from the machine.

14 Remove the hydraulic tank return filter from the hydraulic tank return filter head.

15 Remove the case drain filter from the case drain filter head.

16 Remove the suction strainers from the tank and clean them using a mild solvent.

17 Rinse out the inside of the tank using a mild solvent.

18 Install the suction strainers using Loctite® 567 on the pipe threads.

NOTICE Always use Loctite® 567 on all pipe threads.

19 Install the drain plug using Loctite® 567 on the pipe threads.

NOTICE Always use Loctite® 567 on all pipe threads.

20 Install the hydraulic tank onto the machine.

21 Install the hydraulic tank retaining straps and install the hydraulic tank retaining fasteners.

22 Install the horn and horn retaining fasteners onto the machine. Connect the wiring.

23 Install the ground control box assembly and assembly retaining fasteners onto the machine.

24 Install the two suction hoses and the supply hose for the auxiliary power unit onto the machine.

25 Install the case drain hose onto the return filter head.

26 Install the T-fitting and 2 hoses connected to it to the hydraulic tank return filter head.

TABLE E PROCEDURES

27 Fill the tank with hydraulic oil until the level is 3/4 inch (19 mm) from the top of the sight gauge. Do not overfill.

28 Apply teflon tape to the threads of the hydraulic tank filter mount.

29 Install a new tank breather filter (Genie part number 60559) onto the filter mount and tighten it securely by hand.

30 Use a permanent ink marker to write the date and number of hours from the hour meter on the filter.

31 Install a new tank case drain return filter (Genie part number 44207) onto the filter mount and tighten it securely by hand.

32 Use a permanent ink marker to write the date and number of hours from the hour meter on the filter.

33 Install a new tank return filter (Genie part number 61326) onto the filter mount and tighten it securely by hand.

34 Use a permanent ink marker to write the date and number of hours from the hour meter on the filter.

35 Clean up any oil that may have spilled during the procedure.

36 Open the hydraulic tank shutoff valves.

CAUTION Component damage hazard. Be sure to open the two hydraulic tank shutoff valves and prime the pump after installing the hydraulic tank.
Refer to Repair Section 10-2, *How to Prime the Pump*.

NOTICE Use only Dexron equivalent hydraulic fluid.

37 Install the turntable side cover.

Hydraulic system	
Hydraulic tank capacity	55 gallons 208 liters
Hydraulic system capacity (including tank)	80 gallons 303 liters
Hydraulic fluid	Dexron equivalent

Hydraulic tank return filters - Genie part numbers	
Hydraulic tank breather filter	60559
System return filter	61326
Drive motor case drain return filter	44207

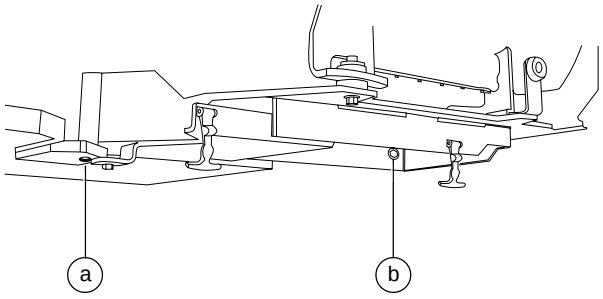
E-2
Change or Recondition the Engine Coolant - Liquid Cooled Models

Replacing or reconditioning the engine coolant is essential to good engine performance and service life. Old or dirty coolant may cause the engine to perform poorly and continued use may cause engine damage. Extremely dirty conditions may require coolant to be changed more frequently.

⚠CAUTION Bodily injury hazard. Beware of hot engine parts and coolant. Contact with hot engine parts and/or coolant will cause severe burns.

NOTICE Perform this procedure with the engine off and cooled.

1 Remove the engine pivot plate retaining fastener. Swing the engine pivot plate out away from the machine.



a engine pivot plate anchor hole
b engine pivot plate retaining fastener

2 Locate the engine pivot plate anchor hole at the pivot end of the engine pivot plate.

3 Install the bolt that was just removed into the anchor hole to secure the engine pivot plate from moving.

⚠WARNING Crushing hazard. Failure to install the bolt into the engine pivot plate to secure it from moving could result in death or serious injury.

4 Put on protective clothing and eye wear.

5 Disconnect the coolant return hose at the radiator and drain the coolant return tank into a suitable container. See capacity specifications.

6 Slowly remove the radiator cap from the radiator.

⚠CAUTION Bodily injury hazard. Allow any pressure to dissipate gradually before removing the radiator cap.

7 Open the drain valve on the radiator and allow the coolant to drain into a suitable container.

8 After all the coolant has drained, close the drain valve.

9 Open the drain valve on the engine block and allow the coolant to drain into a suitable container.

10 After all the coolant has drained, close the drain valve.

11 Replace all coolant hoses and clamps.

12 Fill the radiator with the proper coolant mixture (coolant and water) for your climate until it is full.

TABLE E PROCEDURES

13 Fill the coolant recovery tank to the COLD FULL line on the tank.

14 Clean up any coolant that may have spilled during this procedure.

15 Start the engine from the ground controls and let it run until the engine is up to operating temperature. Continue to run the engine until the coolant has circulated the cooling system.

16 Stop the engine.

17 Allow the engine to cool.

18 Remove the engine pivot plate retaining fastener from the engine pivot plate anchor hole at the pivot end of the engine pivot plate.

19 Swing the engine pivot plate in towards the machine.

20 Install the bolt that was just removed into the original hole to secure the engine pivot plate.

⚠WARNING Crushing hazard. Failure to install the bolt into the engine pivot plate to secure it from moving could result in death or serious injury.

21 Check the coolant level in the coolant recovery tank. Add coolant if needed.

Coolant capacity	20 quarts	18.9 liters

E-3
Change the Fuel Hoses

Maintaining the fuel hoses in good condition is essential to safe operation and good engine performance. Failure to detect a worn, cracked or leaking fuel hose may cause an unsafe operating condition.

⚠DANGER Explosion and fire hazard. Engine fuels are combustible. Replace the fuel lines in an open, well-ventilated area away from heaters, sparks, flames and lighted tobacco. Always have an approved fire extinguisher within easy reach.

⚠DANGER Bodily injury hazard. Fuel may be expelled under pressure. Wrap a cloth around fuel hoses to absorb leaking fuel before disconnecting them.

NOTICE Immediately clean up any fuel that may have spilled during this procedure.

NOTICE Perform this procedure with the engine off.

Deutz models:

1 Remove the engine side turntable fixed side cover. Refer to Repair Section 5-1, *How to Remove a Fixed Turntable Cover.*

TABLE E PROCEDURES

2 Tag, disconnect and plug the fuel line from the fuel tank at the inline fuel filter/water separator head.

3 Remove and replace the following fuel line hoses and clamps:

- Hose from the fuel tank to the inline fuel filter/water separator
- Hose from the inline fuel filter/water separator to the fuel lift pump
- Hose from the fuel lift pump to the fuel filter
- Hose from the fuel filter to the fuel injector pump
- Hose from the fuel injectors to the fuel tank

3 Clean up any fuel that may have spilled during this procedure.

4 Install the fuel tank line onto the inline fuel filter/ water separator head. Tighten the hose clamp.

5 Install the ground control side fixed turntable cover onto the machine and tighten the retaining fasteners.

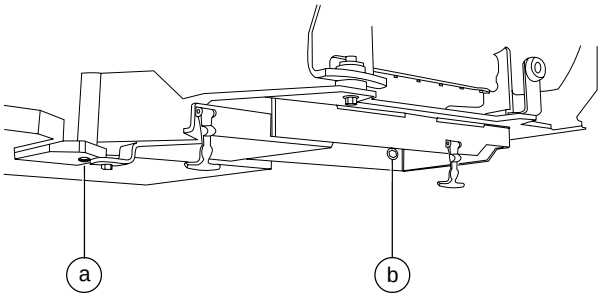
6 Bleed the fuel system. See B-4, *Replace the Inline Fuel Filter/ Water Separator Element.*

NOTICE Before bleeding the system, fill the fuel tank.

Perkins and Cummins models:

1 Remove the engine side turntable fixed side cover. Refer to Repair Section 5-1, *How to Remove a Fixed Turntable Cover.*

2 Remove the engine pivot plate retaining fastener. Swing the engine pivot plate out away from the machine.



a engine pivot plate anchor hole
b engine pivot plate retaining fastener

3 Locate the engine pivot plate anchor hole at the pivot end of the engine pivot plate.

4 Install the bolt that was just removed into the anchor hole to secure the engine pivot plate from moving.

⚠WARNING Crushing hazard. Failure to install the bolt into the engine pivot plate to secure it from moving could result in death or serious injury.

5 Tag, disconnect and plug the fuel line from the fuel tank at the inline fuel filter/water separator head.

TABLE E PROCEDURES

6 Remove and replace the following fuel line hoses and clamps:

Perkins models:

- Hose from the fuel tank to the inline fuel filter/water separator
- Hose from the inline fuel filter/water separator to the fuel lift pump
- Hose from the fuel lift pump to the fuel filter

Cummins models:

- Hose from the fuel tank to the inline fuel filter/water separator
- Hose from the inline fuel filter/water separator to the fuel lift pump
- Hose from the fuel injectors to the fuel tank

7 Clean up any fuel that may have spilled during this procedure.

8 Install the fuel tank line onto the inline fuel filter/water separator head. Tighten the hose clamp.

9 Install the ground control side fixed turntable cover onto the machine and tighten the retaining fasteners.

10 Bleed the fuel system. See Maintenance Procedure B-4, *Replace the Inline Fuel Filter/ Water Separator Element.*

NOTICE Before bleeding the system, fill the fuel tank.

E-4
Check the Engine Valve Clearances - Cummins Models

Complete information to perform this procedure is available in the *Cummins Operation and Maintenance Manual,* Cummins part number 3810205 (Genie part number 62448).

E-5
Check the Fuel Injectors - Deutz Models

NOTICE Engine specifications require that this procedure be performed at 3000 hours.

Complete information to perform this procedure is available in the *Deutz Workshop Manual,* Deutz part number 297-7293 (Genie part number 62434).

E-6
Remove and Inspect the Boom Extend/Retract Cables

NOTICE Genie specifications require that this procedure be performed at 5 years or 5000 hours, whichever comes first and every 2 years thereafter until the cables are replaced.

The boom extend/retract cables are responsible for the extension and retraction of the number 3 boom tube. Removal and inspection of the boom extend/retract cables at specified intervals is essential to good machine performance and safe machine operation. The boom extend/retract functions should operate smoothlyand be free of hesitation, jerking and unusual noise.

1 Remove the boom extend cylinder from the machine. See Repair Procedure 4-4, *How to Remove the Primary Boom Extension Cylinder*.

2 Remove the extend cables from the boom extension cylinder assembly and lay them flat on the ground.

3 Visually inspect the boom extend cables and components for the following:

- Frayed or broken wire strands
- Kinks in the cables
- Corrosion
- Paint or foreign materials on the cable
- Split or cracked cable ends
- Cables at end of adjustment range

4 Replace the boom extend cables if there is any damage to the cables.

NOTICE The extend cables must be replaced in pairs.

NOTICE If the cables are replaced, the cable sheaves or pulleys should also be replaced.

5 Attach a rope to the boom retract cables at the pivot end of the boom.

6 At the platform end of the boom, pull the boom retract cables out of the boom assembly and lay them on the ground.

7 Using a flashlight, visually inspect the boom retract cables and components inside the boom assembly for the following:

- Frayed or broken wire strands
- Kinks in the cables
- Corrosion
- Paint or foreign materials on the cable
- Split or cracked cable ends
- Cables at end of adjustment range

8 Replace the cables if there is any damage to the cables.

NOTICE The retract cables must be replaced in pairs.

NOTICE If the cables are replaced, the cable sheaves or pulleys should also be replaced.

9 At the pivot end of the boom, pull the boom retract cables into the boom assembly using the rope.

10 Install the boom extension cylinder assembly into the boom.

11 Adjust the boom extend/retract cables. See Repair Procedure 4-5, *How to Adjust the Boom Extend/Retract Cables.*

Troubleshooting Flow Charts

Observe and Obey:

- ☑ Troubleshooting and repair procedures shall be completed by a person trained and qualified on the repair of this machine.
- ☑ Immediately tag and remove from service a damaged or malfunctioning machine.
- ☑ Repair any machine damage or malfunction before operating the machine.
- ☑ Unless otherwise specified, perform each repair procedure with the machine in the following configuration:
  - · Machine parked on a flat, level surface
  - · Boom in stowed position
  - · Turntable rotated with the boom between the circle-end wheels
  - · Turntable secured with the turntable rotation lock pin
  - · Key switch in the OFF position with the key removed
  - · Welder disconnected from the machine (if equipped with the weld cable to platform option)
  - · Wheels chocked

Before Troubleshooting:

- ☑ Read, understand and obey the safety rules and operating instructions printed in the *Genie S-100 and Genie S-105 Operator's Manual* or the *Genie S-120 and Genie S-125 Operator's Manual.*
- ☑ Be sure that all necessary tools and test equipment are available and ready for use.
- ☑ Read each appropiate flow chart thoroughly. Attempting shortcuts may produce hazardous conditions.
- ☑ Be aware of the following hazards and follow generally accepted safe workshop practices.

⚠DANGER Crushing hazard. When testing or replacing any hydraulic component, always support the structure and secure it from movement.

⚠DANGER Electrocution hazard. Contact with electrically charged circuits could result in death or serious injury. Remove all rings, watches and other jewelry.

⚠WARNING Bodily injury hazard. Spraying hydraulic oil can penetrate and burn skin. Loosen hydraulic connections very slowly to allow the oil pressure to dissipate gradually. Do not allow oil to squirt or spray.

NOTICE Perform all troubleshooting on a firm level surface.

NOTICE Two persons will be required to safely perform some troubleshooting procedures.

TROUBLESHOOTING FLOW CHARTS

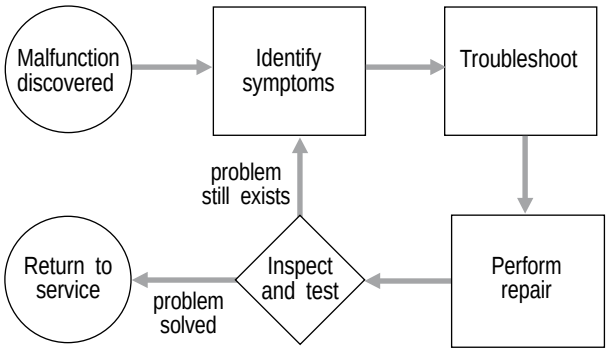
About This Section

When a malfunction is discovered, the flow charts in this section will help a service professional pinpoint the cause of the problem. To use this section, basic hand tools and certain pieces of test equipment are required—voltmeter, ohmmeter, pressure gauges.

The location of terminals mentioned in this section can be found on the appropriate electrical or hydraulic schematics provided in Section 6, *Schematics*.

Since various degrees of a particular function loss may occur, selecting the appropriate flow chart may be troublesome. When a function will not operate with the same speed or power as a machine in good working condition, refer to the flow chart which most closely describes the problem.

General Repair Process



Fault Code Chart

Diagnostic code displayed	Condition	Possible Causes	Solution
AXLE EXT/RET BUTTONS FAULT	Axles will not extend or retract.	Shorted axle extend or retract membrane on platform membrane panel.	Consult Genie Industries Service Department. The platform membrane panel may need to be replaced.
AXLE VALVE FAULT	Axle extend or axle retract inoperative.	Axle extend or axle retract valve coils circuits open or shorted to ground or the coils are bad.	Refer to charts 33 and 34 to troubleshoot.
UP/DOWN JOYSTICK NOT CALIBRATED	Up/down functions inoperative from platform.	Up/down joystick not calibrated.	Calibrate up/down joystick refer to repair section.
UP/DOWN JOYSTICK SHORTED TO 0V	Up/down functions inoperative from platform.	Open circuit between platform control card and up/down joystick.	Refer to charts 13 and 14 to troubleshoot.
UP/DOWN JOYSTICK SHORTED TO 5V	Up/down functions inoperative from platform.	Shorted circuit between platform control card and up/down joystick.	Refer to charts 13 and 14 to troubleshoot.
UP/DOWN JOYSTICK VALUE TOO HIGH	Up/down functions inoperative from platform.	Damaged circuit between platform control card and up/down joystick or Joystick may need to be replaced.	Refer to charts 13 and 14 to troubleshoot.
UP/DOWN JOYSTICK VALUE TOO LOW	Up/down functions inoperative from platform.	Damaged circuit between platform control card and up/down joystick or Joystick may need to be replaced.	Refer to charts 13 and 14 to troubleshoot.
UP/DOWN BUTTONS FAULT	Up/down functions inoperative from turntable.	Shorted boom up/down membrane on turntable membrane panel.	Consult Genie Industries Service Department. The turntable membrane panel may need to be replaced.
BOOM UP/DOWN SPEED NOT CALIBRATED	Up/down function speeds to fast or to slow.	Up/down speed calibration set from display or Reset Boom up/down flow valve defaults set from display. Refer to Display module section.	Calibrate Boom up/down speed refer to repair section.
BOOM UP/DOWN FLOW VALVE NOT CALIBRATED	No movement on up/down functions until joystick is moved past half stroke.	Reset Boom up/down flow valve defaults set from display. Refer to Display module section.	Calibrate Boom up/down Thresholds refer to repair section.
BOOM UP/DOWN FLOW VALVE FAULT	Up/down functions inoperative.	Boom up/down flow valve coil circuit open or shorted to ground or the coil itself is bad.	Refer to charts 13 and 14 to troubleshoot.
BOOM UP VALVE FAULT	Up function inoperative.	Boom up valve coil circuit open or shorted to ground or the coil itself is bad.	Refer to chart 13 to troubleshoot.
BOOM DOWN VALVE FAULT	Down function inoperative.	Boom down valve coil circuit open or shorted to ground or the coil itself is bad.	Refer to chart 14 to troubleshoot.
BOOM ANGLE SWITCHES FAULT	Extend and up functions inoperative and boom down function operative only when boom is fully retracted.	Boom angle operational switches out of sequence.	Refer to chart 12 to troubleshoot.
EXTEND/RETRACT JOYSTICK NOT CALIBRATED	Extend/retract functions inoperative from platform.	Extend/retract joystick not calibrated.	Calibrate extend/retract joystick refer to repair section.
EXTEND/RETRACT JOYSTICK SHORTED TO 0V	Extend/retract functions inoperative from platform.	Open circuit between platform control card and extend/retract joystick.	Refer to charts 16 and 17 to troubleshoot.
EXTEND/RETRACT JOYSTICK SHORTED TO 5V	Extend/retract functions inoperative from platform.	Shorted circuit between platform control card and extend/retract joystick.	Refer to charts 16 and 17 to troubleshoot.
EXTEND/RETRACT JOYSTICK VALUE TOO HIGH	Extend/retract functions inoperative from platform.	Damaged circuit between platform control card and extend/retract joystick or Joystick may need to be replaced.	Refer to charts 16 and 17 to troubleshoot.

Continued on next page

FAULT CODE CHART

Diagnostic code displayed	Condition	Possible Causes	Solution
EXTEND/RETRACT JOYSTICK VALUE TOO LOW	Extend/retract functions inoperative from platform.	Damaged circuit between platform control card and extend/retract joystick or Joystick may need to be replaced.	Refer to charts 16 and 17 to troubleshoot
EXTEND/RETRACT BUTTONS FAULT	Extend/retract functions inoperative from turntable.	Shorted boom extend/retract membrane on turntable membrane panel.	Consult Genie Industries Service Department. The turntable membrane panel may need to be replaced.
BOOM EXT/RET SPEED NOT CALIBRATED	Extend/retract function speeds to fast or to slow.	Extend/retract speed calibration set from display or Reset Boom ext/ret flow valve defaults set from display. Refer to Display module section.	Calibrate Boom extend/retract speed refer to repair section.
BOOM EXT/RET FLOW VALVE NOT CALIBRATED	No movement on extend/retract functions until joystick is moved past half stroke.	Reset Boom extend/retract flow valve defaults set from display. Refer to Display module section.	Calibrate Boom extend/retract Thresholds refer to repair section.
BOOM EXT/RET FLOW VALVE FAULT	Extend/retract functions inoperative.	Boom extend/retract flow valve coil circuit open or shorted to ground or the coil itself is bad.	Refer to charts 16 and 17 to troubleshoot.
BOOM EXT VALVE FAULT	Extend function inoperative.	Boom extend valve coil circuit open or shorted to ground or the coil itself is bad.	Refer to chart 16 to troubleshoot.
BOOM RET VALVE FAULT	Retract function inoperative.	Boom retract valve coil circuit open or shorted to ground or the coil itself is bad.	Refer to chart 17 to troubleshoot.
LOCK OUT VALVE P1 FAULT	Retract function inoperative when boom length is <100'.	Boom retract lockout valve coil circuit open or shorted to ground or the coil itself is bad.	Refer to chart 16 to troubleshoot
LOCK OUT VALVE P2 FAULT	Extend function inoperative when boom length = or >100'	Boom extend lockout valve coil circuit open or shorted to ground or the coil itself is bad.	Refer to chart 17 to troubleshoot.
BOOM LENGTH SWITCHES FAULT	Extend, up, and down functions inoperative.	Boom length operational switches out of sequence.	Refer to chart 15 to troubleshoot.
TURNTABLE ROTATE JOYSTICK NOT CALIBRATED	Turntable rotate functions inoperative from platform.	Turntable rotate joystick not calibrated.	Calibrate turntable rotate joystick refer to repair section.
TURNTABLE ROTATE JOYSTICK SHORTED TO 0V	Turntable rotate functions inoperative from platform.	Open circuit between platform control card and turntable rotate joystick.	Refer to charts 22 and 23 to troubleshoot.
TURNTABLE ROTATE JOYSTICK SHORTED TO 5V	Turntable rotate functions inoperative from platform.	Shorted circuit between platform control card and turntable rotate joystick.	Refer to charts 22 and 23 to troubleshoot.
TURNTABLE ROTATE JOYSTICK VALUE TOO HIGH	Turntable rotate functions inoperative from platform.	Damaged circuit between platform control card and turntable rotate joystick or Joystick may need to be replaced.	Refer to charts 22 and 23 to troubleshoot.
TURNTABLE ROTATE JOYSTICK VALUE TOO LOW	Turntable rotate functions inoperative from platform.	Damaged circuit between platform control card and turntable rotate joystick or Joystick may need to be replaced.	Refer to charts 22 and 23 to troubleshoot.
TURNTABLE ROTATE BUTTONS FAULT	Turntable rotate functions inoperative from turntable.	Shorted turntable rotate membrane on turntable membrane panel.	Consult Genie Industries Service Department. The turntable membrane panel may need to be replaced.

Continued on next page

FAULT CODE CHART

Diagnostic code displayed	Condition	Possible Causes	Solution
TURNTABLE ROTATE SPEED NOT CALIBRATED	Turntable rotate function speeds to fast or to slow.	Turntable rotate speed calibration set from display or Reset turntable rotate flow valve defaults set from display. Refer to Display module section.	Calibrate Turntable rotate speed refer to repair section.
TURNTABLE ROTATE FLOW VALVE NOT CALIBRATED	No movement on Turntable rotate functions until joystick is moved past half stroke.	Reset turntable rotate flow valve defaults set from display. Refer to Display module section.	Calibrate turntable rotate Thresholds refer to repair section.
TURNTABLE ROTATE FLOW VALVE FAULT	Turntable rotate functions inoperative.	Turntable rotate flow valve coil circuit open or shorted to ground or the coil itself is bad.	Refer to charts 22 and 23 to troubleshoot.
TURNTABLE ROTATE CW VALVE FAULT	Turntable rotate CW function inoperative.	Turntable rotate CW valve coil circuit open or shorted to ground or the coil itself is bad.	Refer to chart 22 to troubleshoot.
TURNTABLE ROTATE CCW VALVE FAULT	Turntable rotate CCW function inoperative.	Turntable rotate CCW valve coil circuit open or shorted to ground or the coil itself is bad.	Refer to chart 23 to troubleshoot.
MULTI FUNCTION VALVE FAULT	Multiple functions inoperative. Boom up/dwn,ext/ret, and turntable rotate auxiliary functions inoperative.	Multi function valve coil circuit open or shorted to ground or coil may be bad	Refer to chart 32 to troubleshoot.
STEERING JOYSTICK NOT CALIBRATED	Steering functions inoperative.	Steering joystick not calibrated.	Calibrate steering joystick refer to repair section.
STEERING JOYSTICK SHORTED TO 0V	Steering functions inoperative from platform.	Open circuit between platform control card and steering joystick.	Refer to charts 35,36,37, and 38 to troubleshoot.
STEERING JOYSTICK SHORTED TO 5V	Steering functions inoperative from platform.	Shorted circuit between platform control card and steering joystick.	Refer to charts 35,36,37, and 38 to troubleshoot.
STEERING JOYSTICK VALUE TOO HIGH	steering functions inoperative from platform.	Damaged circuit between platform control card and steering joystick or Joystick may need to be replaced.	Refer to charts 35,36,37, and 38 to troubleshoot.
STEERING JOYSTICK VALUE TOO LOW	Steering functions inoperative from platform.	Damaged circuit between platform control card and steering joystick or Joystick may need to be replaced.	Refer to charts 35,36,37, and 38 to troubleshoot.
BLUE END BLUE SIDE STEER SENSOR SHORTED TO 0V	Blue end blue side steering functions inoperative.	Open circuit between blue end blue side steering sensor and DCON box.	Refer to chart 35 to troubleshoot.
BLUE END BLUE SIDE STEER SENSOR SHORTED TO 5V	Blue end blue side steering functions inoperative.	Shorted circuit between blue end blue side steering sensor and DCON box.	Refer to chart 35 to troubleshoot.
BLUE END BLUE SIDE STEER SENSOR VALUE TOO HIGH	Blue end blue side steering functions inoperative.	Damaged circuit between blue end blue side steering sensor and DCON box or steering sensor may need to be replaced.	Refer to chart 35 to troubleshoot.
BLUE END BLUE SIDE STEER SENSOR VALUE TOO LOW	Blue end blue side steering functions inoperative.	Damaged circuit between blue end blue side steering sensor and DCON box or steering sensor may need to be replaced.	Refer to chart 35 to troubleshoot.
BLUE END YELLOW SIDE STEER SENSOR SHORTED TO 0V	Blue end yellow side steering functions inoperative.	Open circuit between blue end yellow side steering sensor and DCON box.	Refer to chart 36 to troubleshoot.
BLUE END YELLOW SIDE STEER SENSOR SHORTED TO 5V	Blue end yellow side steering functions inoperative.	Shorted circuit between blue end yellow side steering sensor and DCON box.	Refer to chart 36 to troubleshoot.

Continued on next page

FAULT CODE CHART

Diagnostic code displayed	Condition	Possible Causes	Solution
BLUE END YELLOW SIDE STEER SENSOR VALUE TOO HIGH	Blue end yellow side steering functions inoperative.	Damaged circuit between blue end yellow side steering sensor and DCON box or steering sensor may need to be replaced.	Refer to chart 36 to troubleshoot.
BLUE END YELLOW SIDE STEER SENSOR VALUE TOO LOW	Blue end yellow side steering functions inoperative.	Damaged circuit between blue end yellow side steering sensor and DCON box or steering sensor may need to be replaced.	Refer to chart 36 to troubleshoot.
YELLOW END BLUE SIDE STEER SENSOR SHORTED TO 0V	Yellow end blue side steering functions inoperative.	Open circuit between yellow end blue side steering sensor and DCON box.	Refer to chart 37 to troubleshoot.
YELLOW END BLUE SIDE STEER SENSOR SHORTED TO 5V	Yellow end blue side steering functions inoperative.	Shorted circuit between yellow end blue side steering sensor and DCON box.	Refer to chart 37 to troubleshoot.
YELLOW END BLUE SIDE STEER SENSOR VALUE TOO HIGH	Yellow end blue side steering functions inoperative.	Damaged circuit between yellow end blue side steering sensor and DCON box or steering sensor may need to be replaced.	Refer to chart 37 to troubleshoot.
YELLOW END BLUE SIDE STEER SENSOR VALUE TOO LOW	Yellow end blue side steering functions inoperative.	Damaged circuit between yellow end blue side steering sensor and DCON box or steering sensor may need to be replaced.	Refer to chart 37 to troubleshoot.
YELLOW END YELLOW SIDE STEER SENSOR SHORTED TO 0V	Yellow end yellow side steering functions inoperative.	Open circuit between yellow end yellow side steering sensor and DCON box.	Refer to chart 38 to troubleshoot.
YELLOW END YELLOW SIDE STEER SENSOR SHORTED TO 5V	Yellow end yellow side steering functions inoperative.	Shorted circuit between yellow end yellow side steering sensor and DCON box.	Refer to chart 38 to troubleshoot.
YELLOW END YELLOW SIDE STEER SENSOR VALUE TOO HIGH	Yellow end yellow side steering functions inoperative.	Damaged circuit between yellow end yellow side steering sensor and DCON box or steering sensor may need to be replaced.	Refer to chart 38 to troubleshoot.
YELLOW END YELLOW SIDE STEER SENSOR VALUE TOO LOW	Yellow end yellow side steering functions inoperative.	Damaged circuit between yellow end yellow side steering sensor and DCON box or steering sensor may need to be replaced.	Refer to chart 38 to troubleshoot.
BLUE END BLUE SIDE STEER VALVE FAULT	Blue end blue side CW or blue end blue side CCW functions inoperative.	Blue end blue side CW or CCW valve coils circuits open or shorted to ground or the coils are bad.	Refer to charts 35 to troubleshoot.
BLUE END YELLOW SIDE STEER VALVE FAULT	Blue end yellow side CW or blue end yellow side CCW functions inoperative.	Blue end yellow side CW or CCW valve coils circuits open or shorted to ground or the coils are bad.	Refer to charts 36 to troubleshoot.
YELLOW END BLUE SIDE STEER VALVE FAULT	Yellow end blue side CW or yellow end blue side CCW functions inoperative.	Yellow end blue side CW or CCW valve coils circuits open or shorted to ground or the coils are bad.	Refer to charts 37 to troubleshoot.
YELLOW END YELLOW SIDE STEER VALVE FAULT	Yellow end yellow side CW or yellow end yellow side CCW functions inoperative	Yellow end yellow side CW or CCW valve coils circuits open or shorted to ground or the coils are bad.	Refer to charts 38 to troubleshoot.
DRIVE JOYSTICK NOT CALIBRATED	Drive functions inoperative.	Drive joystick not calibrated.	Calibrate drive joystick refer to repair section.
DRIVE JOYSTICK SHORTED TO 0V	Drive functions inoperative.	Open circuit between platform control card and drive joystick.	Refer to charts 39 and 40 to troubleshoot.
DRIVE JOYSTICK SHORTED TO 5V	Drive functions inoperative.	Shorted circuit between platform control card and drive joystick.	Refer to charts 39 and 40 to troubleshoot.

Continued on next page

FAULT CODE CHART

Diagnostic code displayed	Condition	Possible Causes	Solution
DRIVE JOYSTICK VALUE TOO HIGH	Drive functions inoperative.	Damaged circuit between platform control card and drive joystick or Joystick may need to be replaced.	Refer to charts 39 and 40 to troubleshoot.
DRIVE JOYSTICK VALUE TOO LOW	Drive functions inoperative.	Damaged circuit between platform control card and drive joystick or Joystick may need to be replaced.	Refer to charts 39 and 40 to troubleshoot.
DRIVE VALVE NOT CALIBRATED	No movement on Drive forward or reverse functions until joystick is moved past half stroke.	Reset propel valve defaults set from display. Refer to Display module section.	Calibrate propel thresholds refer to repair section.
DRIVE VALVE FAULT	Drive forward and drive reverse functions inoperative.	Drive forward or drive reverse valve coils circuits open or shorted to ground or the coils are bad.	Refer to charts 39 and 40 to troubleshoot.
BRAKE VALVE FAULT	Drive forward or drive reverse functions inoperative.	Brake valve circuit open or shorted to ground or coil is bad.	Refer to charts 39 and 40 to troubleshoot.
MOTOR COIL FAULT	High drive inoperative.	Motor coil circuit open or shorted to ground or the coil is bad.	Refer to chart 42 to troubleshoot.
AUX PROPEL VALVE FAULT	Auxiliary drive forward or reverse inoperative (Only seen if Aux. Drive option is enabled from display. Refer to display module section.).	Auxiliary propel valve coils circuits open or shorted to ground or the coils are bad.	Refer to chart 44 To troubleshoot.
PLATFORM LEVEL TOGGLE SWITCHES FAULT	Manual platform level inoperative from platform or turntable controls.	Shorted platform level toggle switch on the platform control box or shorted platform level up or down membrane switch on the turntable membrane panel.	Refer to charts 25 and 26 to troubleshoot.
PLATFORM LEVEL SENSOR DEGREES SHORTED TO 0V	Platform level and boom up/down functions inoperative.	Open circuit between platform level sensor and platform control box.	Refer to chart 24 to troubleshoot.
PLATFORM LEVEL SENSOR DEGREES SHORTED TO 5V	Platform level and boom up/down functions inoperative.	Shorted circuit between platform level sensor and platform control box.	Refer to chart 24 to troubleshoot.
PLATFORM LEVEL SENSOR DEGREES VALUE TOO HIGH	Platform level and boom up/down functions inoperative.	Damaged circuit between platform level sensor and platform control box or platform level sensor may need to be replaced.	Refer to chart 24 to troubleshoot.
PLATFORM LEVEL SENSOR DEGREES VALUE TOO LOW	Platform level and boom up/down functions inoperative.	Damaged circuit between platform level sensor and platform control box or platform level sensor may need to be replaced.	Refer to chart 24 to troubleshoot.
PLATFORM LEVEL VALVE FAULT	Platform level up or platform level down function inoperative.	Platform level up or platform level down coils circuits open or shorted to ground or the coils are bad.	Refer to charts 25 and 26 to troubleshoot.
PLATFORM ROTATE TOGGLE SWITCHES FAULT	Platform rotate functions inoperative from platform or turntable controls.	Shorted platform rotate toggle switch on the platform control box or shorted platform rotate CW or CCW membrane switch on the turntable membrane panel.	Refer to charts 28 and 29 to troubleshoot.
PLATFORM ROTATE VALVE FAULT	Platform rotate CW or CCW inoperative.	Platform rotate cw or ccw coils circuits open or shorted to ground or the coils are bad.	Refer to charts 28 and 29 to troubleshoot.
JIB UP/DOWN TOGGLE SWITCHES FAULT	Jib functions inoperative.	Shorted jib toggle switch on the platform control box or shorted jib up or down membrane switch on the turntable membrane panel.	Refer to charts 30 and 31 to troubleshoot.

Continued on next page

FAULT CODE CHART

Diagnostic code displayed	Condition	Possible Causes	Solution
JIB VALVE FAULT	Jib up or jib down inoperative.	Jib up or jib down coils circuits open or shorted to ground or coils are bad.	Refer to charts 30 and 31 to troubleshoot.
ENGINE SPEED NO RESPONSE	Engine runs then dies.	Engine RPM signal from alternator below 100RPM.	Refer to chart 4 to troubleshoot.
ENGINE SPEED VALUE TOO HIGH	Engine runs then dies.	Engine RPM signal from alternator above 3500RPM.	Refer to chart 4 to troubleshoot.
ENGINE OIL PRESSURE VALUE TOO LOW	Engine runs then dies.	Engine oil pressure below 12psi.	Refer to chart 4 to troubleshoot.
ENGINE OIL PRESSURE SENSOR SHORTED TO 0V	Engine runs then dies.	Engine oil pressure sensor circuit shorted to ground.	Refer to chart 4 to troubleshoot.
ENGINE OIL PRESSURE SENSOR SHORTED TO 5V	Engine runs then dies.	Engine oil pressure sensor circuit open.	Refer to chart 4 to troubleshoot.
ENGINE OIL PRESSURE SENSOR VALUE TOO HIGH	Engine runs then dies.	Engine oil pressure sensor circuit damaged or sensor may need to be replaced.	Refer to chart 4 to troubleshoot.
ENGINE OIL PRESSURE SENSOR VALUE TOO LOW	Engine runs then dies.	Engine oil pressure sensor circuit damaged or sensor may need to be replaced.	Refer to chart 4 to troubleshoot.
ENGINE TEMPERATURE VALUE TOO HIGH	Engine runs then dies.	Engine temperature above maximum allowable temp for engine.	Refer to chart 4 to troubleshoot.
ENGINE TEMPERATURE SENSOR SHORTED TO 0V	Engine runs then dies.	Engine temperature sensor circuit shorted to ground.	Refer to chart 4 to troubleshoot.
ENGINE TEMPERATURE SENSOR SHORTED TO 5V	Engine runs then dies.	Engine temperature sensor circuit open.	Refer to chart 4 to troubleshoot.
ENGINE TEMPERATURE SENSOR VALUE TOO HIGH	Engine runs then dies.	Engine temperature sensor circuit damaged or sensor may need to be replaced.	Refer to chart 4 to troubleshoot.
ENGINE TEMPERATURE SENSOR VALUE TOO LOW	Engine runs then dies.	Engine temperature sensor circuit damaged or sensor may need to be replaced.	Refer to chart 4 to troubleshoot.
TURNTABLE LEVEL SENSOR X-DIRECTION SHORTED TO 0V	Unit out of level LED, icon and alarm active.	Open circuit in turntable level sensor X-direction wiring.	Repair open in circuit. Refer to electrical schematic to troubleshoot.
TURNTABLE LEVEL SENSOR X-DIRECTION SHORTED TO 5V	Unit out of level LED, icon and alarm active.	Short in turntable level sensor X-direction circuit wiring.	Repair short in circuit. Refer to electrical schematic to troubleshoot.
TURNTABLE LEVEL SENSOR X-DIRECTION VALUE TOO HIGH	Unit out of level LED, icon and alarm active.	Damaged circuit in turntable level sensor X-direction wiring or turntable level sensor may need to be replaced.	Repair damage in circuit wiring. Refer to electrical schematic to troubleshoot or consult Genie Industries Service Department to determine if turntable level sensor needs to be replaced.
TURNTABLE LEVEL SENSOR X-DIRECTION VALUE TOO LOW	Unit out of level LED, icon and alarm active.	Damaged circuit in turntable level sensor X-direction wiring or turntable level sensor may need to be replaced.	Repair damage in circuit wiring. Refer to electrical schematic to troubleshoot or consult Genie Industries Service Department to determine if turntable level sensor needs to be replaced.
TURNTABLE LEVEL SENSOR Y-DIRECTION SHORTED TO 0V	Unit out of level LED, icon and alarm active.	Open circuit in turntable level sensor Y-direction wiring.	Repair open in circuit. Refer to electrical schematic to troubleshoot.

Continued on next page

FAULT CODE CHART

Diagnostic code displayed	Condition	Possible Causes	Solution
TURNTABLE LEVEL SENSOR Y-DIRECTION SHORTED TO 5V	Unit out of level LED, icon and alarm active.	Short in turntable level sensor Y-direction circuit wiring.	Repair short in circuit. Refer to electrical schematic to troubleshoot.
TURNTABLE LEVEL SENSOR Y-DIRECTION VALUE TOO HIGH	Unit out of level LED, icon and alarm active.	Damaged circuit in turntable level sensor Y-direction wiring or turntable level sensor may need to be replaced.	Repair damage in circuit wiring. Refer to electrical schematic to troubleshoot or consult Genie Industries Service Department to determine if turntable level sensor needs to be replaced.
TURNTABLE LEVEL SENSOR Y-DIRECTION VALUE TOO LOW	Unit out of level LED, icon and alarm active.	Damaged circuit in turntable level sensor Y-direction wiring or turntable level sensor may need to be replaced.	Repair damage in circuit wiring. Refer to electrical schematic to troubleshoot or consult Genie Industries Service Department to determine if turntable level sensor needs to be replaced.
DCON CAN NO RESPONSE	All drive chassis functions inoperative.	Open or shorted wires in CAN bus circuits between DCON and TCON control box's.	Repair damage in circuit wiring. Refer to electrical schematic to troubleshoot or consult Genie Industries Service Department.
CAN BUS NO RESPONSE	No functions from platform control box and all platform functions inoperative when using turntable controls.	Open or shorted wires in CAN bus circuits between PCON and TCON control box's.	Repair damage in circuit wiring. Refer to electrical schematic to troubleshoot or consult Genie Industries Service Department.
SAFETY SWITCH P3 FAULT	All functions inoperative.	Open circuit in tether Emergency stop wiring.	Repair damage in circuit wiring. Refer to electrical schematic to troubleshoot or consult Genie Industries Service Department.
SAFETY SWITCH P6R1 FAULT	Boom extend and boom down functions inoperative. This fault creates Safety switch P9A,P10,P11, and P18 fault.	Bad K4 relay inside turntable control box.	Replace K4 relay or consult Genie Industries Service Department.
SAFETY SWITCH P6R2 FAULT	Engine cranks but won't start.	Bad K3 relay inside turntable control box.	Replace K3 relay or consult Genie Industries Service Department.
SAFETY SWITCH P7 FAULT	No boom functions. Fault creates safety switch P7R,P22,P14,P12 and P22R faults.	Bad K5 relay inside turntable control box or bad K1 relay inside platform control box.	Replace K5 or K1 relays or consult Genie Industries Service Department.
SAFETY SWITCH P7R FAULT	No boom functions. Fault creates safety switch P22,P22R,P14, and P12 faults.	Bad K2 relay inside turntable control box or bad K2 relay inside platform control box.	Replace relays or consult Genie Industries Service Department.
SAFETY SWITCH P9A FAULT	Boom extend and boom down functions inoperative. This fault creates Safety switch P10 and P18 faults.	Open in Boom envelope safety circuits or operational limit switches LSB3EO,LSB13AO,LSB4EO, or LSB14AO have failed.	Refer to chart 18 or 19 to troubleshoot.
SAFETY SWITCH P9B FAULT	Engine cranks but won't start.	Open in Boom envelope safety circuits or operational limit switches LSB3EO,LSB13AO,LSB4EO, or LSB14AO have failed.	Refer to chart 18 or 19 to troubleshoot.
SAFETY SWITCH P10 FAULT	Boom extend inoperative.	Boom extension cables out of adjustment or LSB6S limit switch is bad or there is an open in the safety circuit wiring.	Refer to chart 20 or 21 to troubleshoot.
SAFETY SWITCH P11 FAULT	Boom up inoperative.	Open in axle safety switch circuit or limit switch LSB7DS,LSAX1ES, or LSAX2ES have failed or operational limit switch LSB1DO has failed.	Refer to chart 18 or 19 and chart 20 or 21 to troubleshoot.

Continued on next page

FAULT CODE CHART

Diagnostic code displayed	Condition	Possible Causes	Solution
SAFETY SWITCH P12 FAULT	Axle retract inoperative.	Open in stowed safety circuit or limit switch LSB7DS or LSB3RS have failed or operational limit switches LSB1DO or LSB3RO have failed.	Refer to chart 18 or 19 and chart 20 or 21 to troubleshoot.
SAFETY SWITCH P14 FAULT	Axle retract inoperative.	Open in stowed safety circuit or limit switch LSB7DS has failed or limit switch LSB1DO has failed.	Refer to chart 18 or 19 and chart 20 or 21 to troubleshoot.
SAFETY SWITCH P18 FAULT	Boom extend inoperative.	Open in axle safety switch circuit or limit switch LSB3RS,LSAX1ES, or LSAX2ES have failed or operational limit switch LSB3RO has failed.	Refer to chart 18 or 19 and chart 20 or 21 to troubleshoot.
SAFETY SWITCH P22 FAULT	Platform level inoperative. Fault creates a safety switch P22R fault.	Platform out of level >10degrees out of stowed position or platform level sensor is bad or there is an open in the platform level sensor circuit or limit switches LSB1DO or LSB3RO are bad.	Refer to chart 27 to troubleshoot.
SAFETY SWITCH P22R FAULT	Platform level and Boom up/down inoperative.	Platform out of level >10degrees out of stowed position or platform level sensor is bad or there is an open in the platform level sensor circuit or limit switches LSB1DO or LSB3RO are bad.	Refer to chart 27 to troubleshoot.
DCON SAFETY SWITCH P7R FAULT	Steering and axle functions inoperative.	Open in Red S56PRV wire circuit that runs from the turntable control box to the DCON control box.	Repair damage in circuit wiring. Refer to electrical schematic to troubleshoot or consult Genie Industries Service Department.
PROX. KILL SW. FAULT	All functions inoperative unless spare membrane on platform control box is activated.	Proximity Kill Bumper under platform has run into an obstruction or is out of adjustment.	Activate spare membrane and carefully move away from obstruction or readjust proximity kill limit switch.
PLTFRM OVERLOAD SEN. FAULT	All functions inoperative red LED above spare membrane flashing.	Load in platform is above rated load or load sensor is out of adjustment.	Unload excessive weight out of platform or readjust load sensor.
BOOM UP OVERLOAD FAULT	All functions except Boom retract inoperative.	Load in platform is above rated load or boom has run into an obstruction or boom up overload switch is out of adjustment.	Unload excessive weight out of platform or readjust limit switch or move away from obstruction.
BOOM DOWN OVERLOAD FAULT	All functions except Boom up and retract inoperative.	Boom has been lowered into an obstruction with boom extended or boom down overload switch is out of adjustment or there is an open in boom down overload circuit.	Refer to chart 14 to troubleshoot.
PRESS PLATFORM ESTOP	Code displayed whenever engine is running and controller is waiting for engine to be shut off to save calibrations or any parameter changes made with the display to memory.	Just finished a speed calibration for boom up/dwn, ext.ret, or turntable rotate or Joysticks were calibrated with engine running or a function parameter was changed with the display while the engine was running.	Turn key switch to platform control position and depress platform Emergency stop.

Chart 1

Display Not Active

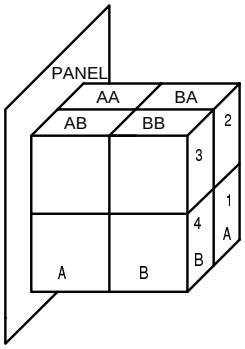
Be sure the key switch is in the appropriate position.

Be sure that both Emergency Stop buttons are pulled out to the ON position.

Be sure the circuit breakers are not tripped.

Be sure the batteries are fully charged and properly connected.

Main key switch contacts



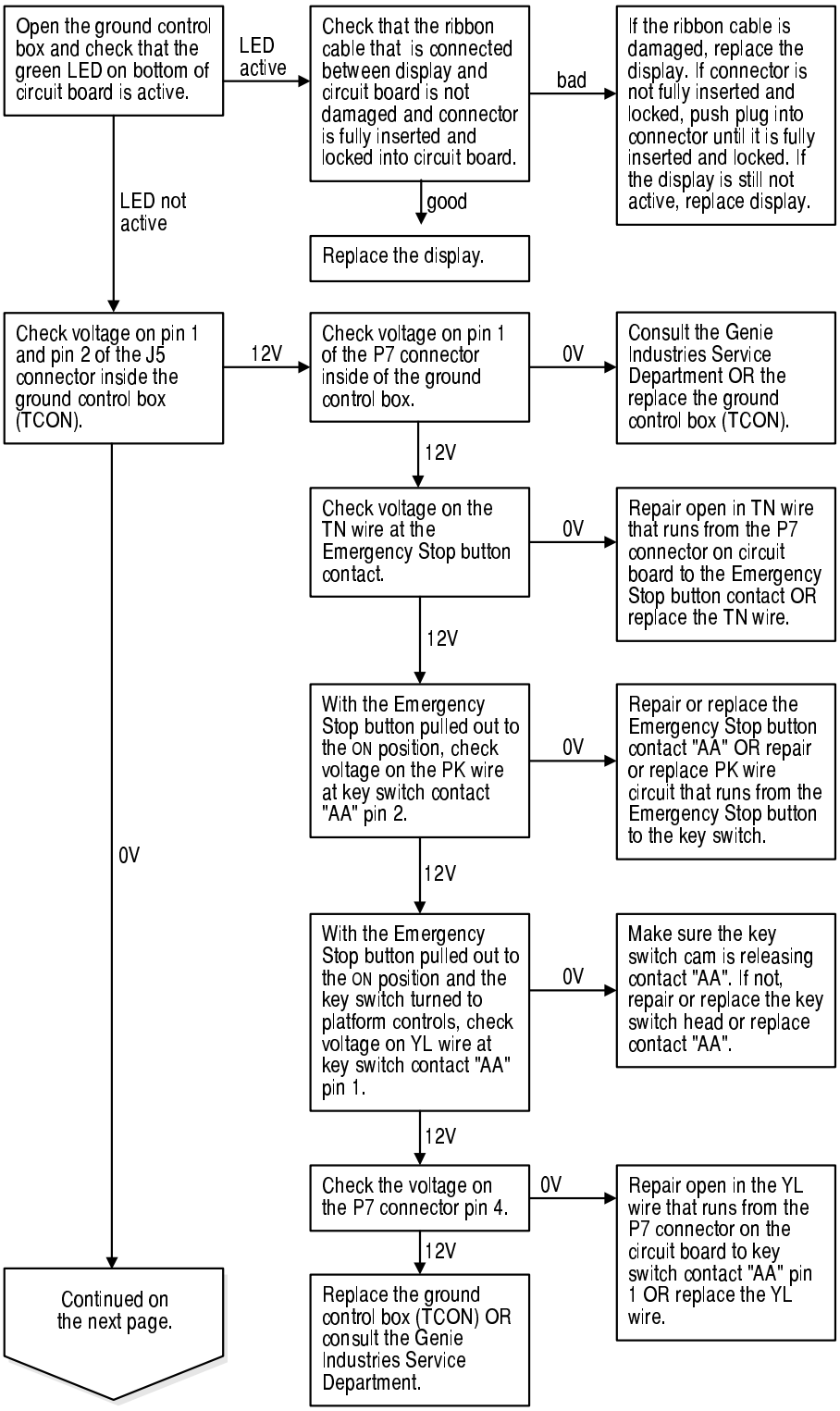

Open the ground control box and check that the green LED on bottom of circuit board is active.
LED active
Check that the ribbon cable that is connected between display and circuit board is not damaged and connector is fully inserted and locked into circuit board.
bad
If the ribbon cable is damaged, replace the display. If connector is not fully inserted and locked, push plug into connector until it is fully inserted and locked. If the display is still not active, replace display.
good
Replace the display.
LED not active
Check voltage on pin 1 and pin 2 of the J5 connector inside the ground control box (TCON).
12V
Check voltage on pin 1 of the P7 connector inside of the ground control box.
0V
Consult the Genie Industries Service Department OR the replace the ground control box (TCON).
12V
Check voltage on the TN wire at the Emergency Stop button contact.
0V
Repair open in TN wire that runs from the P7 connector on circuit board to the Emergency Stop button contact OR replace the TN wire.
12V
With the Emergency Stop button pulled out to the ON position, check voltage on the PK wire at key switch contact "AA" pin 2.
0V
Repair or replace the Emergency Stop button contact "AA" OR repair or replace PK wire circuit that runs from the Emergency Stop button to the key switch.
12V
With the Emergency Stop button pulled out to the ON position and the key switch turned to platform controls, check voltage on YL wire at key switch contact "AA" pin 1.
0V
Make sure the key switch cam is releasing contact "AA". If not, repair or replace the key switch head or replace contact "AA".
12V
Check the voltage on the P7 connector pin 4.
0V
Repair open in the YL wire that runs from the P7 connector on the circuit board to key switch contact "AA" pin 1 OR replace the YL wire.
12V
Replace the ground control box (TCON) OR consult the Genie Industries Service Department.
0V
Continued on the next page.

CHART 1

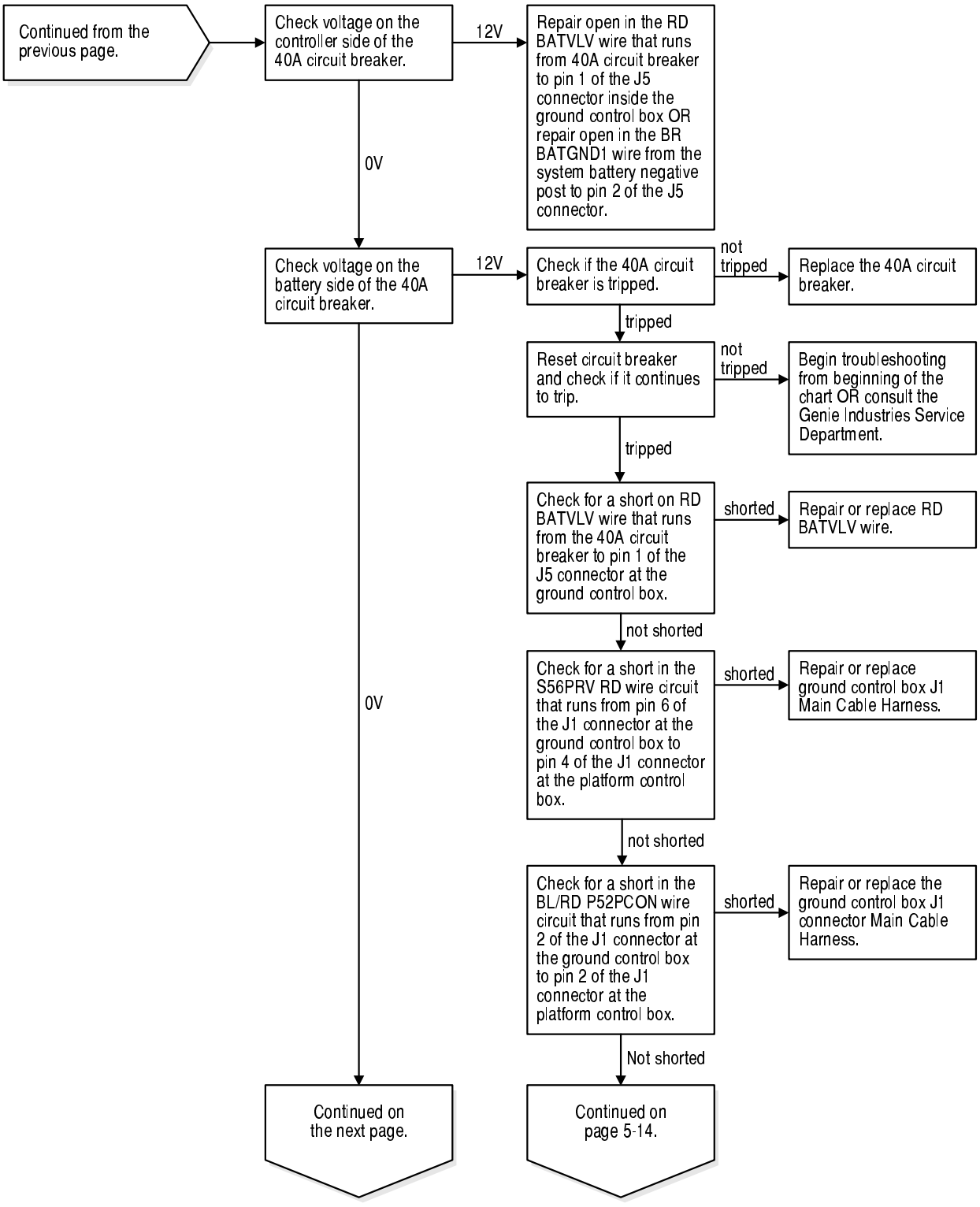

Continued from the previous page.
Check voltage on the controller side of the 40A circuit breaker.
12V
Repair open in the RD BATVLV wire that runs from 40A circuit breaker to pin 1 of the J5 connector inside the ground control box OR repair open in the BR BATGND1 wire from the system battery negative post to pin 2 of the J5 connector.
0V
Check voltage on the battery side of the 40A circuit breaker.
12V
Check if the 40A circuit breaker is tripped.
not tripped
Replace the 40A circuit breaker.
tripped
Reset circuit breaker and check if it continues to trip.
not tripped
Begin troubleshooting from beginning of the chart OR consult the Genie Industries Service Department.
tripped
Check for a short on RD BATVLV wire that runs from the 40A circuit breaker to pin 1 of the J5 connector at the ground control box.
shorted
Repair or replace RD BATVLV wire.
not shorted
Check for a short in the S56PRV RD wire circuit that runs from pin 6 of the J1 connector at the ground control box to pin 4 of the J1 connector at the platform control box.
shorted
Repair or replace ground control box J1 Main Cable Harness.
0V
not shorted
Check for a short in the BL/RD P52PCON wire circuit that runs from pin 2 of the J1 connector at the ground control box to pin 2 of the J1 connector at the platform control box.
shorted
Repair or replace the ground control box J1 connector Main Cable Harness.
Not shorted
Continued on the next page.
Continued on page 5-14.

CHART 1

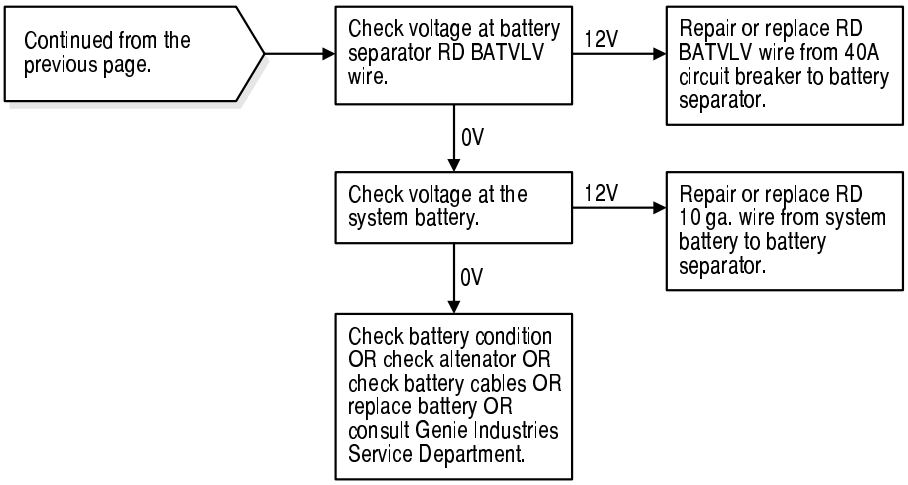

Continued from the previous page.
Check voltage at battery separator RD BATVLV wire.
12V
Repair or replace RD BATVLV wire from 40A circuit breaker to battery separator.
0V
Check voltage at the system battery.
12V
Repair or replace RD 10 ga. wire from system battery to battery separator.
0V
Check battery condition OR check altenator OR check battery cables OR replace battery OR consult Genie Industries Service Department.

CHART 1

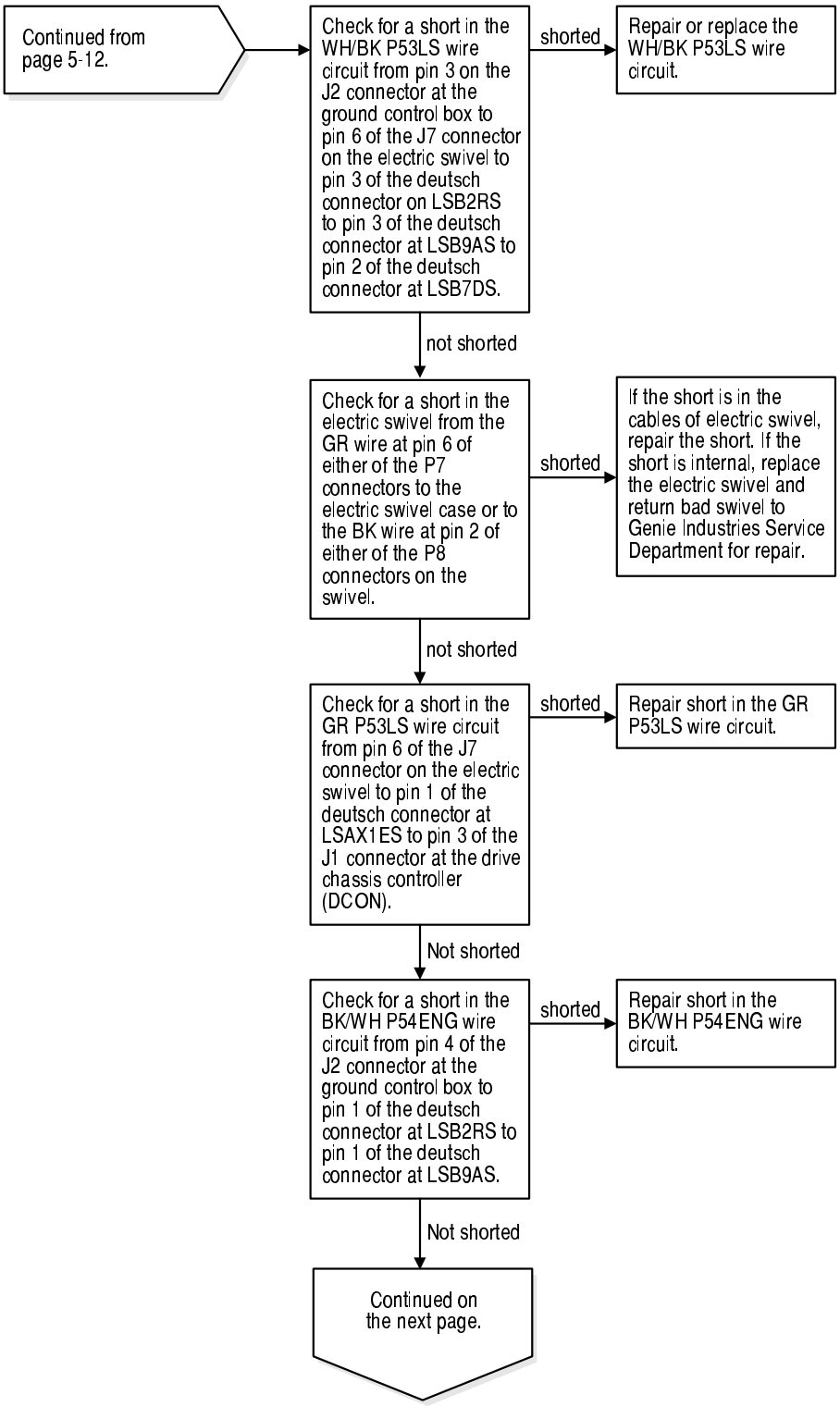

Continued from page 5-12.
Check for a short in the WH/BK P53LS wire circuit from pin 3 on the J2 connector at the ground control box to pin 6 of the J7 connector on the electric swivel to pin 3 of the deutsch connector on LSB2RS to pin 3 of the deutsch connector at LSB9AS to pin 2 of the deutsch connector at LSB7DS.
shorted
Repair or replace the WH/BK P53LS wire circuit.
not shorted
Check for a short in the electric swivel from the GR wire at pin 6 of either of the P7 connectors to the electric swivel case or to the BK wire at pin 2 of either of the P8 connectors on the swivel.
shorted
If the short is in the cables of electric swivel, repair the short. If the short is internal, replace the electric swivel and return bad swivel to Genie Industries Service Department for repair.
not shorted
Check for a short in the GR P53LS wire circuit from pin 6 of the J7 connector on the electric swivel to pin 1 of the deutsch connector at LSAX1ES to pin 3 of the J1 connector at the drive chassis controller (DCON).
shorted
Repair short in the GR P53LS wire circuit.
Not shorted
Check for a short in the BK/WH P54ENG wire circuit from pin 4 of the J2 connector at the ground control box to pin 1 of the deutsch connector at LSB2RS to pin 1 of the deutsch connector at LSB9AS.
shorted
Repair short in the BK/WH P54ENG wire circuit.
Not shorted
Continued on the next page.

CHART 1

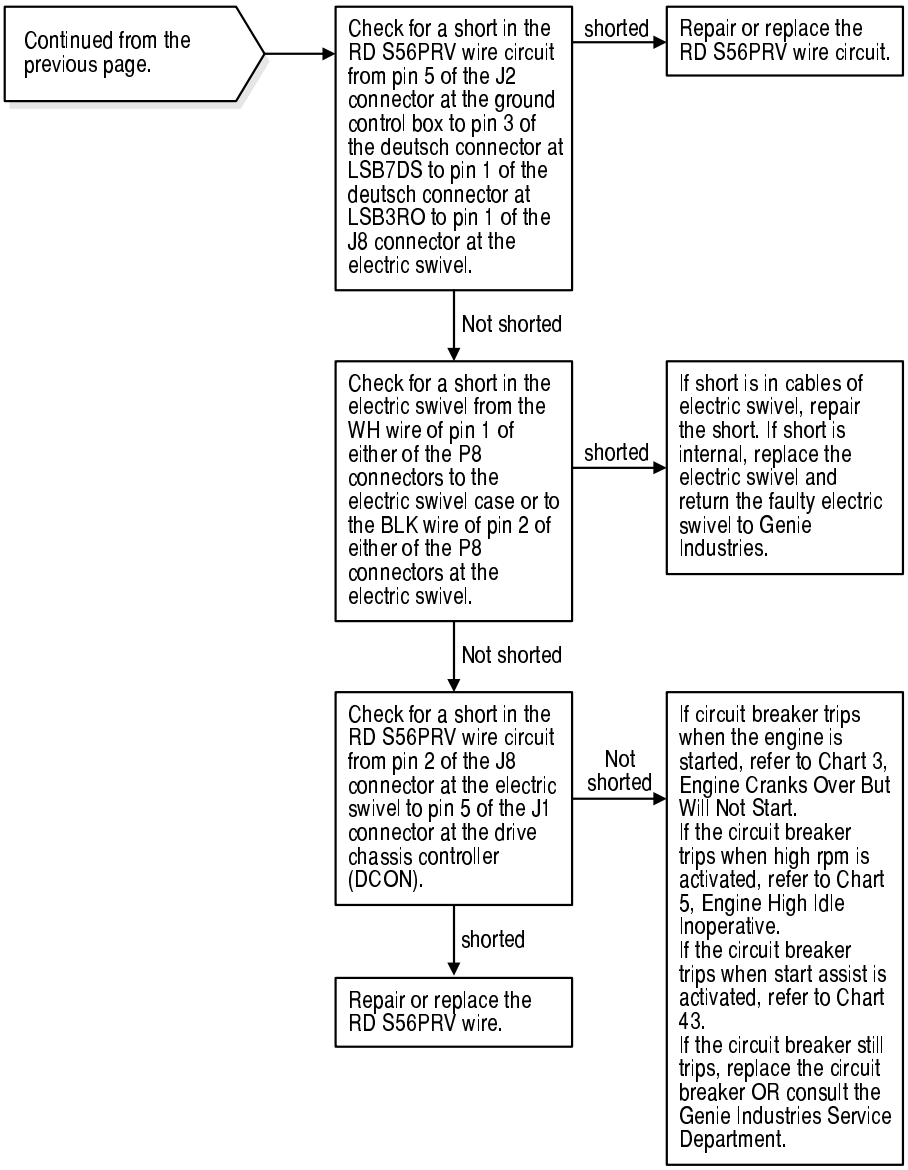

Continued from the previous page.
Check for a short in the RD S56PRV wire circuit from pin 5 of the J2 connector at the ground control box to pin 3 of the deutsch connector at LSB7DS to pin 1 of the deutsch connector at LSB3RO to pin 1 of the J8 connector at the electric swivel.
shorted
Repair or replace the RD S56PRV wire circuit.
Not shorted
Check for a short in the electric swivel from the WH wire of pin 1 of either of the P8 connectors to the electric swivel case or to the BLK wire of pin 2 of either of the P8 connectors at the electric swivel.
shorted
If short is in cables of electric swivel, repair the short. If short is internal, replace the electric swivel and return the faulty electric swivel to Genie Industries.
Not shorted
Check for a short in the RD S56PRV wire circuit from pin 2 of the J8 connector at the electric swivel to pin 5 of the J1 connector at the drive chassis controller (DCON).
Not shorted
If circuit breaker trips when the engine is started, refer to Chart 3, Engine Cranks Over But Will Not Start.
If the circuit breaker trips when high rpm is activated, refer to Chart 5, Engine High Idle Inoperative.
If the circuit breaker trips when start assist is activated, refer to Chart 43.
If the circuit breaker still trips, replace the circuit breaker OR consult the Genie Industries Service Department.
shorted
Repair or replace the RD S56PRV wire.

Chart 2

Engine Will Not Crank Over

Be sure to check fuel level.

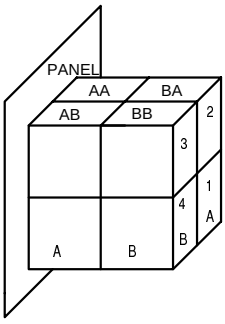
Be sure the key switch is in the appropriate position.

Be sure that both Emergency Stop buttons are pulled out to the ON position.

Be sure the circuit breakers are not tripped.

Be sure the batteries are fully charged and properly connected.

Key switch contact legend



With the key switch turned to ground controls and both Emergency Stop buttons pulled out to the ON position, does the engine crank over from the ground control box?

yes → Go to page 5-18.

no

Turn the key switch to platform controls. Does the engine crank over from the platform controls?

yes → Go to page 5-21.

no

Is wire jumper installed between pins H and J of the tether interface plug just behind the ground control box?

no → Install wire jumper between pins H and J of the tether interface plug just behind the ground control box.

yes

Check the voltage of the system battery and the engine start battery. Are both batteries 12V or more?

no → Check battery condition OR check alternator OR check battery cables OR replace the battery OR check the battery separator.

yes

Check the display at the ground controls to verify that the display screen is active. Are there numbers on the screen?

no → Reset the 40A circuit breaker OR See Chart 1.

yes

Continued on the next page.

CHART 2

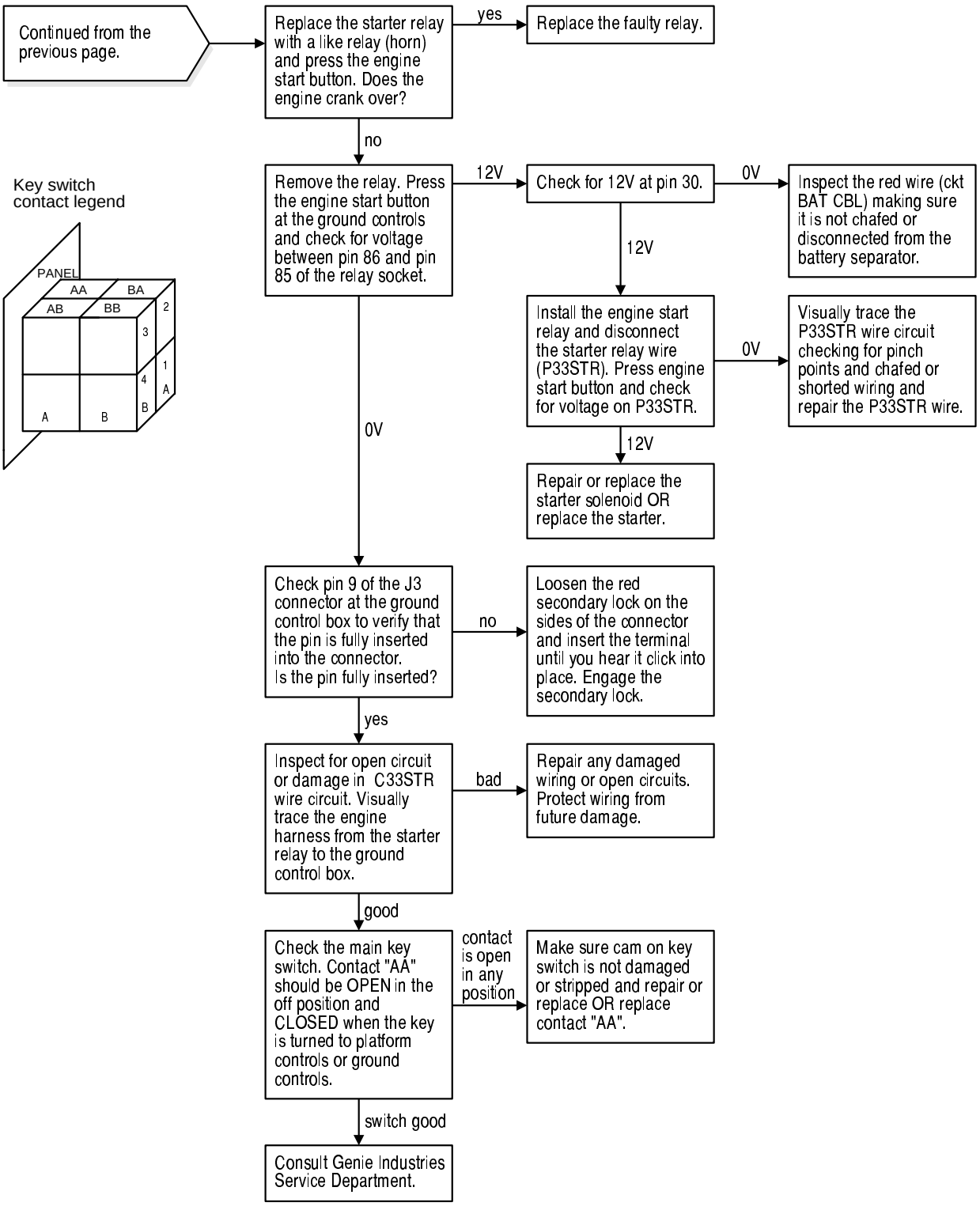

Continued from the previous page.
Replace the starter relay with a like relay (horn) and press the engine start button. Does the engine crank over?
yes
Replace the faulty relay.
no
Remove the relay. Press the engine start button at the ground controls and check for voltage between pin 86 and pin 85 of the relay socket.
12V
Check for 12V at pin 30.
0V
Inspect the red wire (ckt BAT CBL) making sure it is not chafed or disconnected from the battery separator.
12V
Install the engine start relay and disconnect the starter relay wire (P33STR). Press engine start button and check for voltage on P33STR.
0V
Visually trace the P33STR wire circuit checking for pinch points and chafed or shorted wiring and repair the P33STR wire.
12V
Repair or replace the starter solenoid OR replace the starter.
0V
Key switch contact legend
PANEL
AA
BA
AB
BB
2
3
1
4
A
B
A
B
Check pin 9 of the J3 connector at the ground control box to verify that the pin is fully inserted into the connector. Is the pin fully inserted?
no
Loosen the red secondary lock on the sides of the connector and insert the terminal until you hear it click into place. Engage the secondary lock.
yes
Inspect for open circuit or damage in C33STR wire circuit. Visually trace the engine harness from the starter relay to the ground control box.
bad
Repair any damaged wiring or open circuits. Protect wiring from future damage.
good
Check the main key switch. Contact "AA" should be OPEN in the off position and CLOSED when the key is turned to platform controls or ground controls.
contact is open in any position
Make sure cam on key switch is not damaged or stripped and repair or replace OR replace contact "AA".
switch good
Consult Genie Industries Service Department.

CHART 2

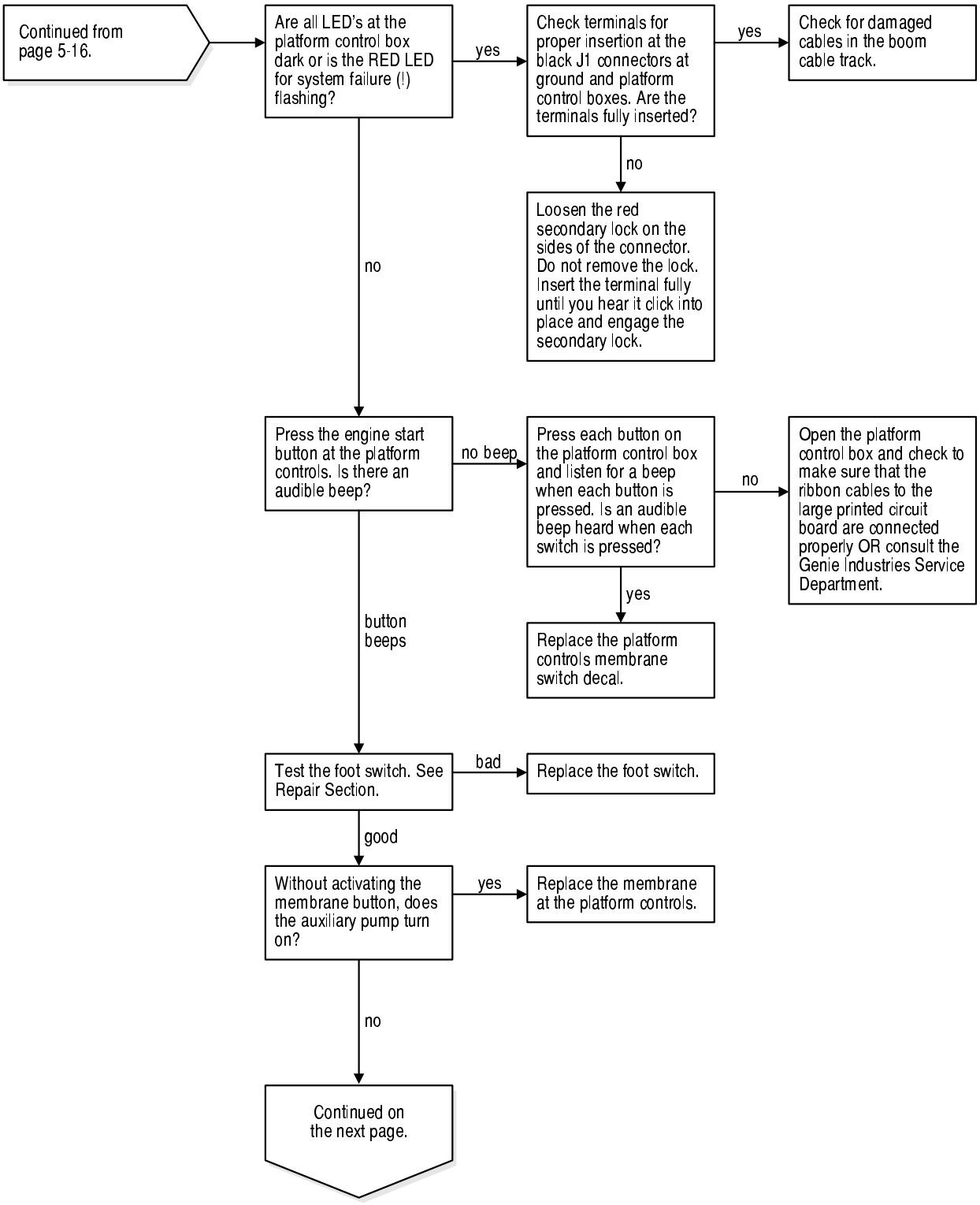

Continued from page 5-16.
Are all LED's at the platform control box dark or is the RED LED for system failure (!) flashing?
yes
Check terminals for proper insertion at the black J1 connectors at ground and platform control boxes. Are the terminals fully inserted?
yes
Check for damaged cables in the boom cable track.
no
Loosen the red secondary lock on the sides of the connector. Do not remove the lock. Insert the terminal fully until you hear it click into place and engage the secondary lock.
no
Press the engine start button at the platform controls. Is there an audible beep?
no beep
Press each button on the platform control box and listen for a beep when each button is pressed. Is an audible beep heard when each switch is pressed?
no
Open the platform control box and check to make sure that the ribbon cables to the large printed circuit board are connected properly OR consult the Genie Industries Service Department.
yes
Replace the platform controls membrane switch decal.
button beeps
Test the foot switch. See Repair Section.
bad
Replace the foot switch.
good
Without activating the membrane button, does the auxiliary pump turn on?
yes
Replace the membrane at the platform controls.
no
Continued on the next page.

CHART 2

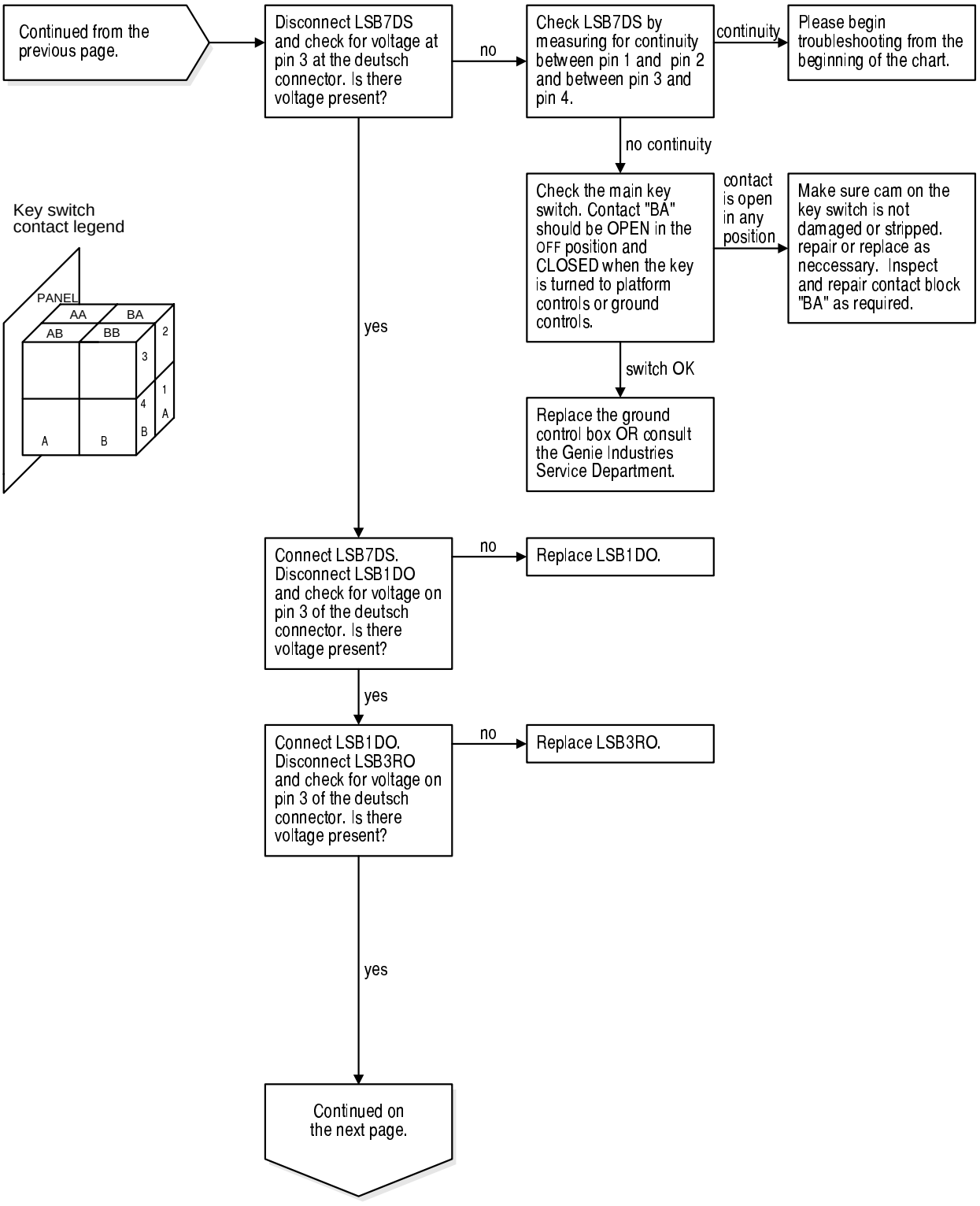

Continued from the previous page.
Disconnect LSB7DS and check for voltage at pin 3 at the deutsch connector. Is there voltage present?
no
Check LSB7DS by measuring for continuity between pin 1 and pin 2 and between pin 3 and pin 4.
continuity
Please begin troubleshooting from the beginning of the chart.
no continuity
Check the main key switch. Contact "BA" should be OPEN in the OFF position and CLOSED when the key is turned to platform controls or ground controls.
contact is open in any position
Make sure cam on the key switch is not damaged or stripped. repair or replace as neccessary. Inspect and repair contact block "BA" as required.
switch OK
Replace the ground control box OR consult the Genie Industries Service Department.
yes
Key switch contact legend
PANEL
AA
BA
AB
BB
2
3
1
4
A
B
A
B
Connect LSB7DS. Disconnect LSB1DO and check for voltage on pin 3 of the deutsch connector. Is there voltage present?
no
Replace LSB1DO.
yes
Connect LSB1DO. Disconnect LSB3RO and check for voltage on pin 3 of the deutsch connector. Is there voltage present?
no
Replace LSB3RO.
yes
Continued on the next page.

CHART 2

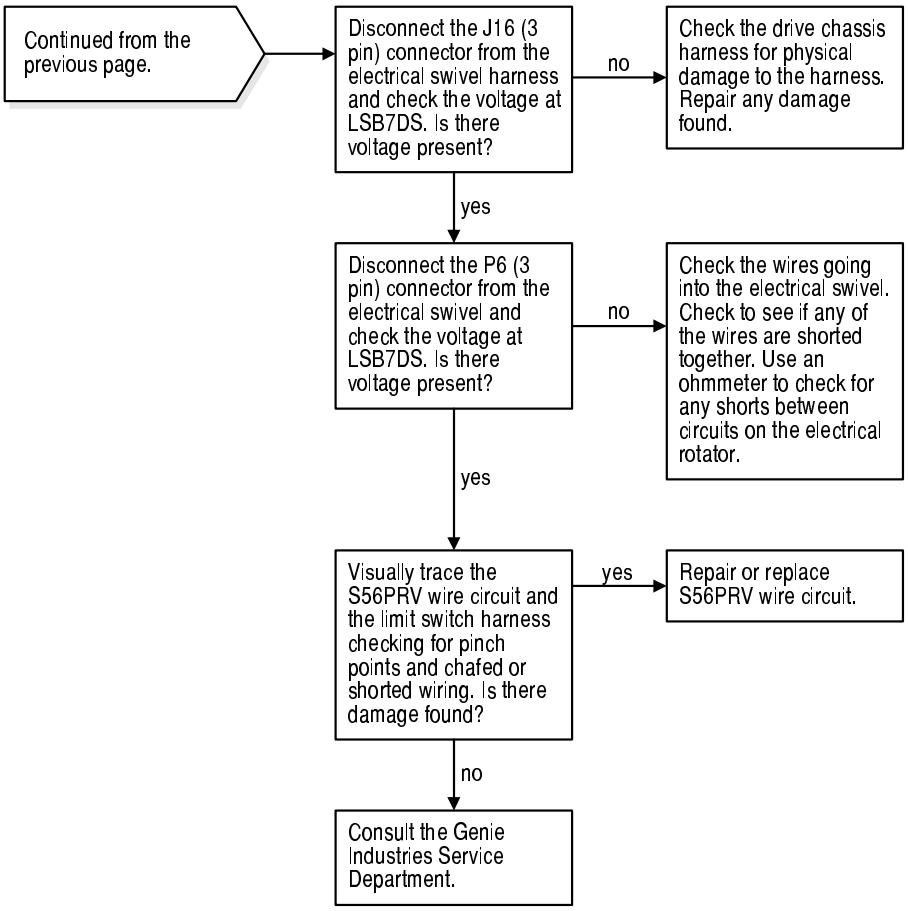

Continued from the previous page.
Disconnect the J16 (3 pin) connector from the electrical swivel harness and check the voltage at LSB7DS. Is there voltage present?
no
Check the drive chassis harness for physical damage to the harness. Repair any damage found.
yes
Disconnect the P6 (3 pin) connector from the electrical swivel and check the voltage at LSB7DS. Is there voltage present?
no
Check the wires going into the electrical swivel. Check to see if any of the wires are shorted together. Use an ohmmeter to check for any shorts between circuits on the electrical rotator.
yes
Visually trace the S56PRV wire circuit and the limit switch harness checking for pinch points and chafed or shorted wiring. Is there damage found?
yes
Repair or replace S56PRV wire circuit.
no
Consult the Genie Industries Service Department.

CHART 2

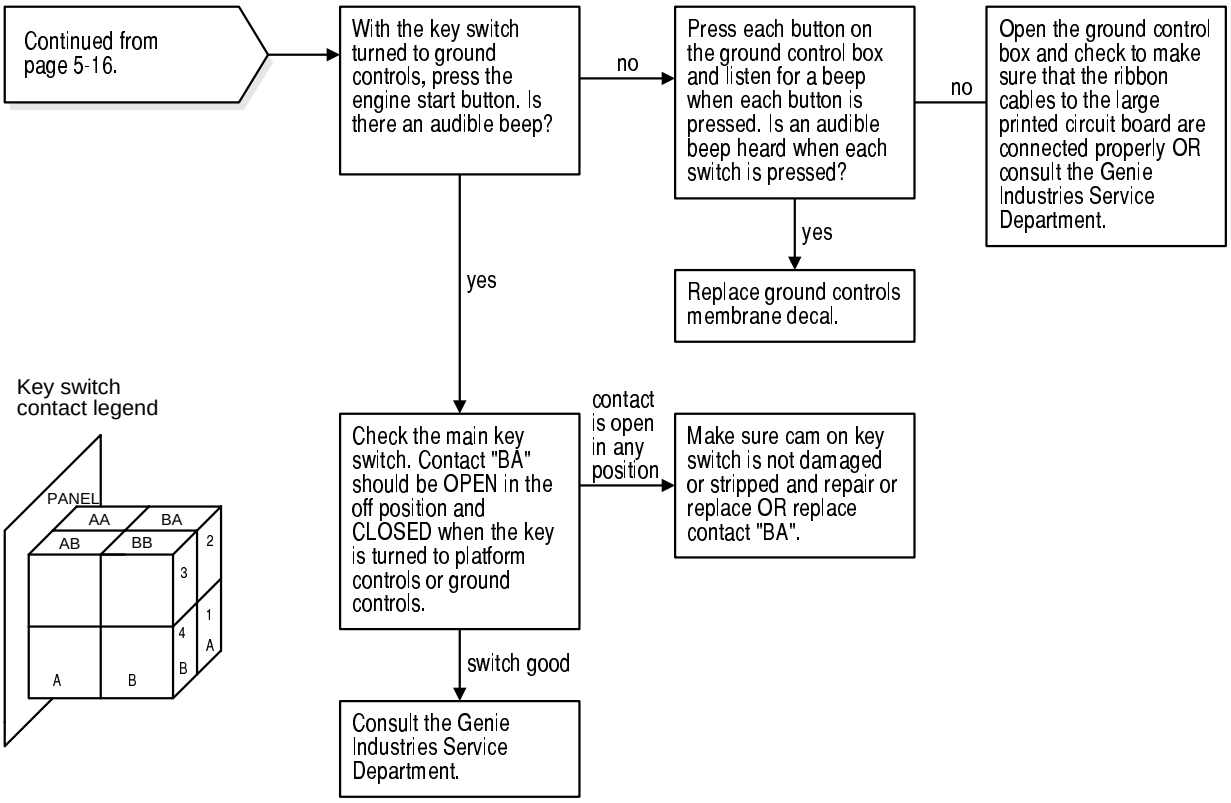

Continued from page 5-16.
With the key switch turned to ground controls, press the engine start button. Is there an audible beep?
no
Press each button on the ground control box and listen for a beep when each button is pressed. Is an audible beep heard when each switch is pressed?
no
Open the ground control box and check to make sure that the ribbon cables to the large printed circuit board are connected properly OR consult the Genie Industries Service Department.
yes
Replace ground controls membrane decal.
yes
Key switch contact legend
PANEL
AA
BA
AB
BB
2
3
1
4
A
B
A
B
Check the main key switch. Contact "BA" should be OPEN in the off position and CLOSED when the key is turned to platform controls or ground controls.
contact is open in any position
Make sure cam on key switch is not damaged or stripped and repair or replace OR replace contact "BA".
switch good
Consult the Genie Industries Service Department.

Chart 3

Engine Cranks Over But Will Not Start

Be sure to check the fuel level and fill as needed.

Be sure the fuel system is properly bled.

Be sure the batteries are fully charged and properly connected.

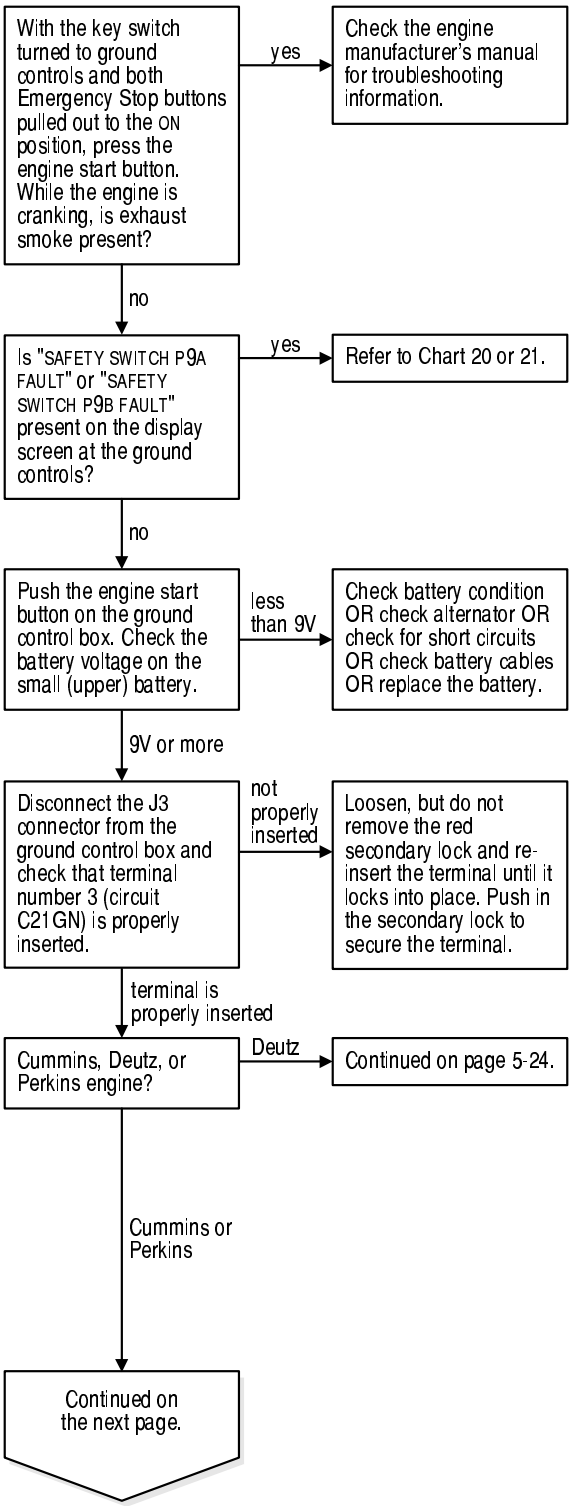

With the key switch turned to ground controls and both Emergency Stop buttons pulled out to the ON position, press the engine start button. While the engine is cranking, is exhaust smoke present?
yes
Check the engine manufacturer's manual for troubleshooting information.
no
Is "SAFETY SWITCH P9A FAULT" or "SAFETY SWITCH P9B FAULT" present on the display screen at the ground controls?
yes
Refer to Chart 20 or 21.
no
Push the engine start button on the ground control box. Check the battery voltage on the small (upper) battery.
less than 9V
Check battery condition OR check alternator OR check for short circuits OR check battery cables OR replace the battery.
9V or more
Disconnect the J3 connector from the ground control box and check that terminal number 3 (circuit C21GN) is properly inserted.
not properly inserted
Loosen, but do not remove the red secondary lock and re-insert the terminal until it locks into place. Push in the secondary lock to secure the terminal.
terminal is properly inserted
Cummins, Deutz, or Perkins engine?
Deutz
Continued on page 5-24.
Cummins or Perkins
Continued on the next page.

CHART 3

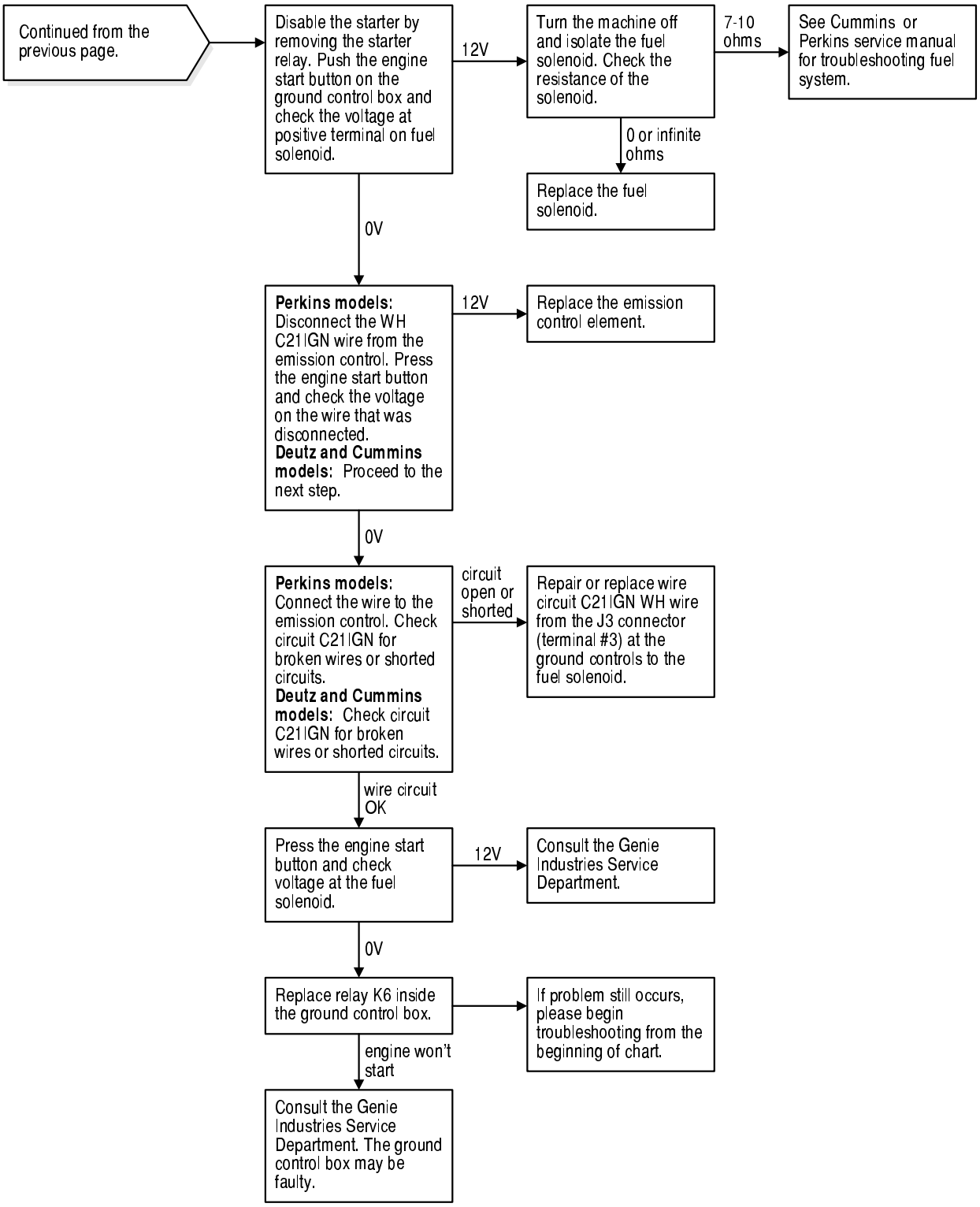

Continued from the previous page.
Disable the starter by removing the starter relay. Push the engine start button on the ground control box and check the voltage at positive terminal on fuel solenoid.
12V
Turn the machine off and isolate the fuel solenoid. Check the resistance of the solenoid.
7-10 ohms
See Cummins or Perkins service manual for troubleshooting fuel system.
0 or infinite ohms
Replace the fuel solenoid.
0V
Perkins models: Disconnect the WH C21IGN wire from the emission control. Press the engine start button and check the voltage on the wire that was disconnected. Deutz and Cummins models: Proceed to the next step.
12V
Replace the emission control element.
0V
Perkins models: Connect the wire to the emission control. Check circuit C21IGN for broken wires or shorted circuits. Deutz and Cummins models: Check circuit C21IGN for broken wires or shorted circuits.
circuit open or shorted
Repair or replace wire circuit C21IGN WH wire from the J3 connector (terminal #3) at the ground controls to the fuel solenoid.
wire circuit OK
Press the engine start button and check voltage at the fuel solenoid.
12V
Consult the Genie Industries Service Department.
0V
Replace relay K6 inside the ground control box.
If problem still occurs, please begin troubleshooting from the beginning of chart.
engine won't start
Consult the Genie Industries Service Department. The ground control box may be faulty.

CHART 3

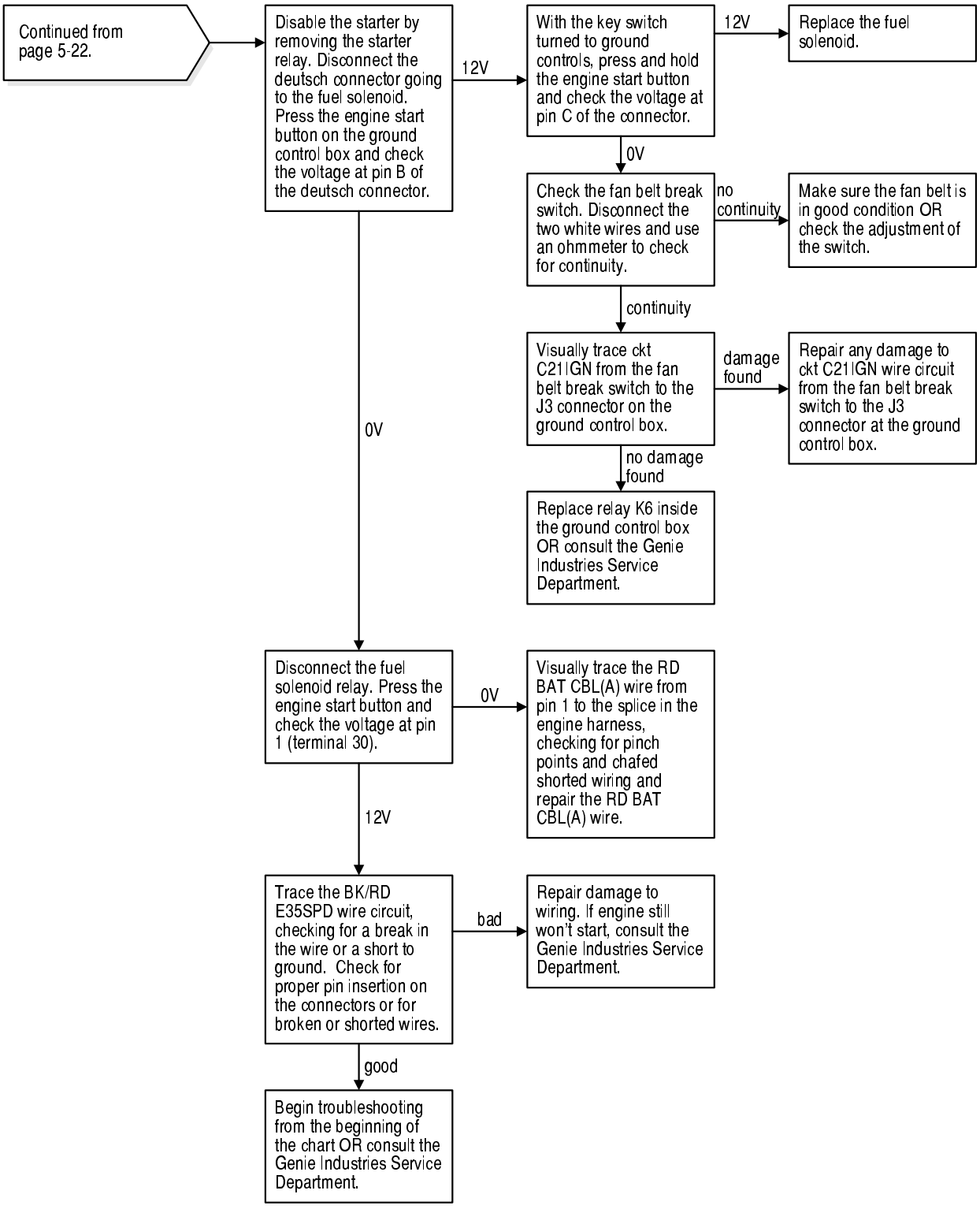

Continued from page 5-22.
Disable the starter by removing the starter relay. Disconnect the deutsch connector going to the fuel solenoid. Press the engine start button on the ground control box and check the voltage at pin B of the deutsch connector.
12V
With the key switch turned to ground controls, press and hold the engine start button and check the voltage at pin C of the connector.
12V
Replace the fuel solenoid.
0V
Check the fan belt break switch. Disconnect the two white wires and use an ohmmeter to check for continuity.
no continuity
Make sure the fan belt is in good condition OR check the adjustment of the switch.
continuity
Visually trace ckt C21IGN from the fan belt break switch to the J3 connector on the ground control box.
damage found
Repair any damage to ckt C21IGN wire circuit from the fan belt break switch to the J3 connector at the ground control box.
no damage found
Replace relay K6 inside the ground control box OR consult the Genie Industries Service Department.
0V
Disconnect the fuel solenoid relay. Press the engine start button and check the voltage at pin 1 (terminal 30).
0V
Visually trace the RD BAT CBL(A) wire from pin 1 to the splice in the engine harness, checking for pinch points and chafed shorted wiring and repair the RD BAT CBL(A) wire.
12V
Trace the BK/RD E35SPD wire circuit, checking for a break in the wire or a short to ground. Check for proper pin insertion on the connectors or for broken or shorted wires.
bad
Repair damage to wiring. If engine still won't start, consult the Genie Industries Service Department.
good
Begin troubleshooting from the beginning of the chart OR consult the Genie Industries Service Department.

Chart 4

Engine Starts and Runs for 3 Seconds and Dies

Be sure to check the engine oil level and fill as needed.

Be sure to check fuel level and fill as needed.

Be sure to check coolant level and fill as needed.

Be sure fuel system is properly bled.

Be sure the batteries are fully charged and properly connected.

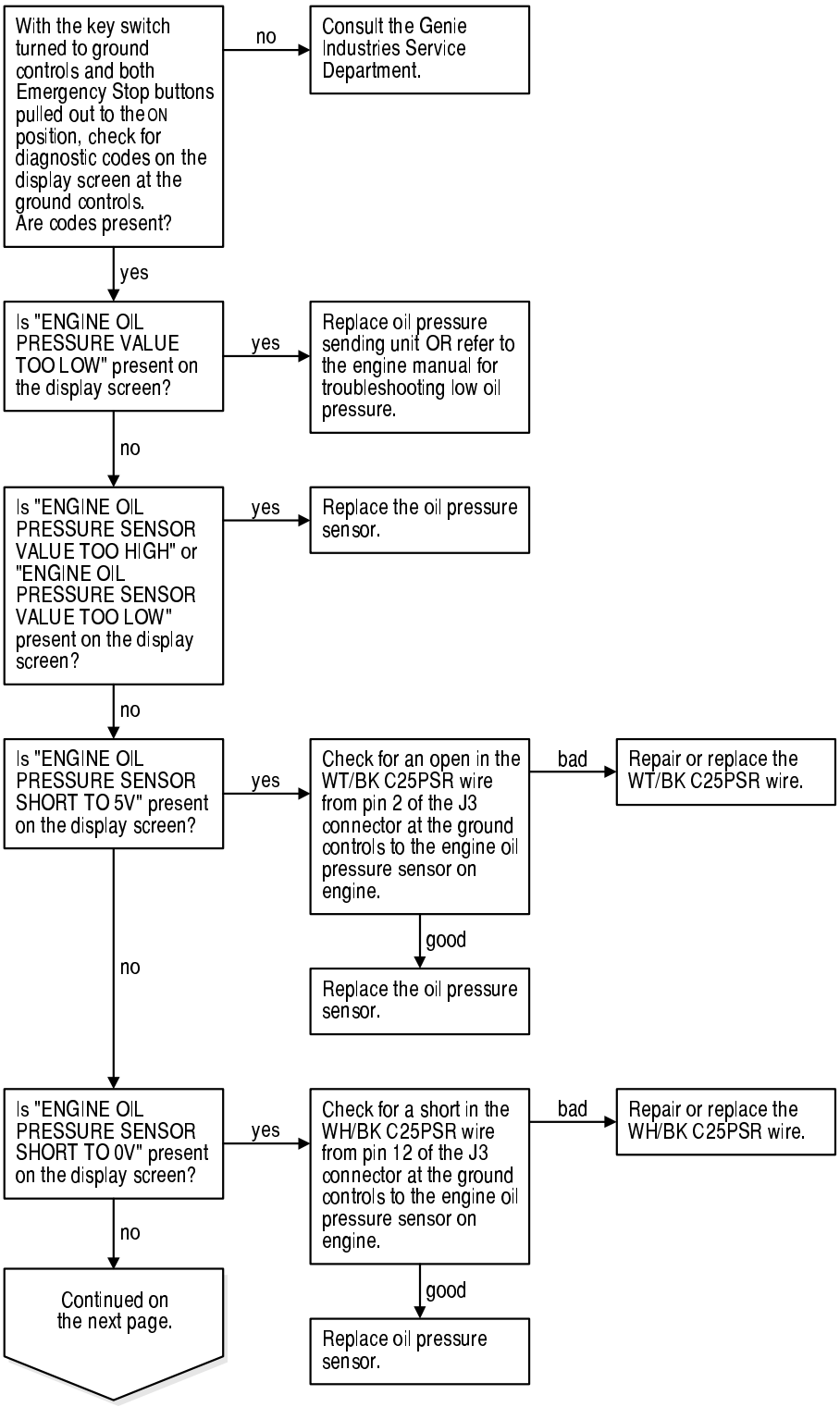

With the key switch turned to ground controls and both Emergency Stop buttons pulled out to the ON position, check for diagnostic codes on the display screen at the ground controls. Are codes present?
no
Consult the Genie Industries Service Department.
yes
Is "ENGINE OIL PRESSURE VALUE TOO LOW" present on the display screen?
yes
Replace oil pressure sending unit OR refer to the engine manual for troubleshooting low oil pressure.
no
Is "ENGINE OIL PRESSURE SENSOR VALUE TOO HIGH" or "ENGINE OIL PRESSURE SENSOR VALUE TOO LOW" present on the display screen?
yes
Replace the oil pressure sensor.
no
Is "ENGINE OIL PRESSURE SENSOR SHORT TO 5V" present on the display screen?
yes
Check for an open in the WT/BK C25PSR wire from pin 2 of the J3 connector at the ground controls to the engine oil pressure sensor on engine.
bad
Repair or replace the WT/BK C25PSR wire.
good
Replace the oil pressure sensor.
no
Is "ENGINE OIL PRESSURE SENSOR SHORT TO 0V" present on the display screen?
yes
Check for a short in the WH/BK C25PSR wire from pin 12 of the J3 connector at the ground controls to the engine oil pressure sensor on engine.
bad
Repair or replace the WH/BK C25PSR wire.
good
Replace oil pressure sensor.
no
Continued on the next page.

CHART 4

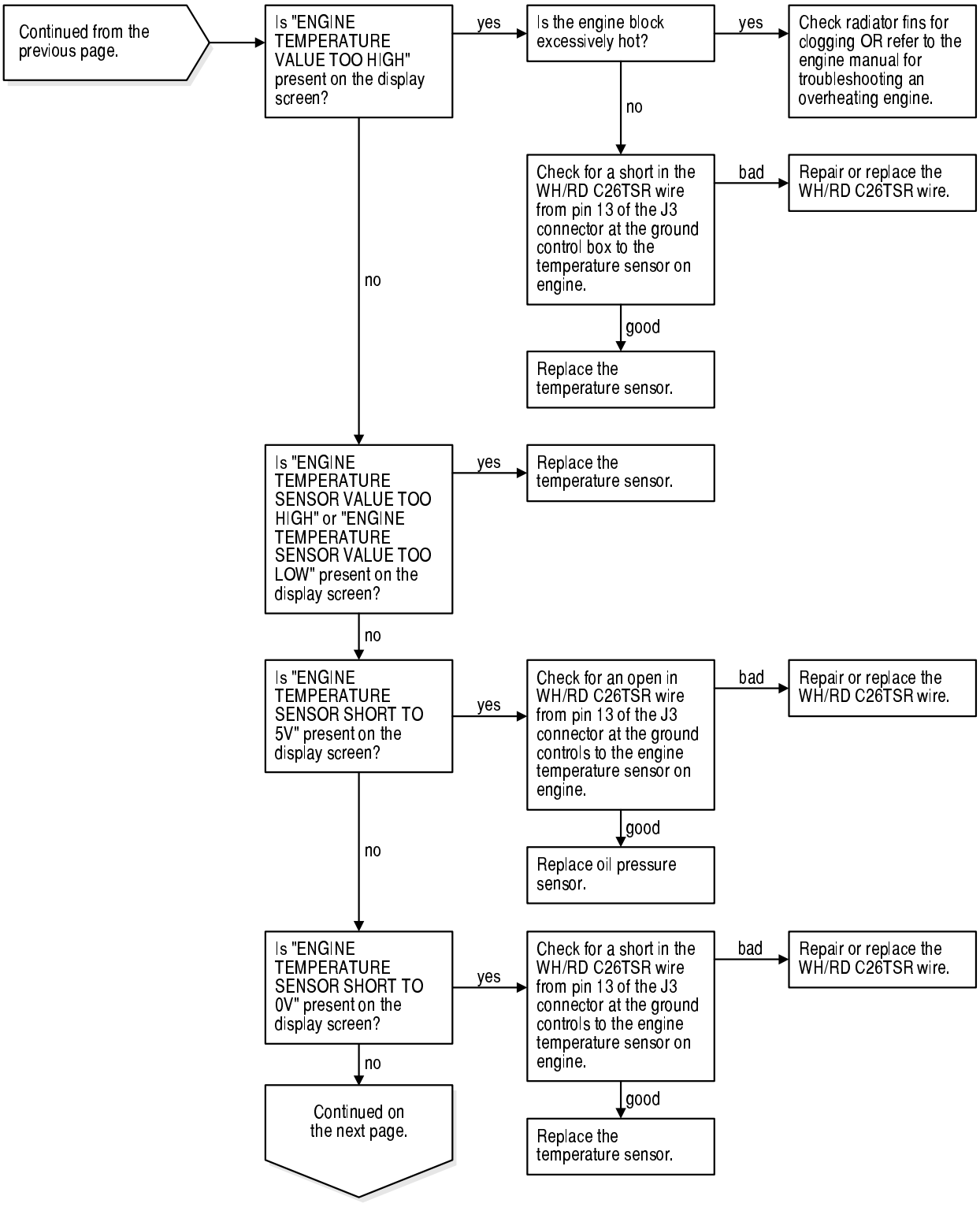

Continued from the previous page.
Is "ENGINE TEMPERATURE VALUE TOO HIGH" present on the display screen?
yes
Is the engine block excessively hot?
yes
Check radiator fins for clogging OR refer to the engine manual for troubleshooting an overheating engine.
no
Check for a short in the WH/RD C26TSR wire from pin 13 of the J3 connector at the ground control box to the temperature sensor on engine.
bad
Repair or replace the WH/RD C26TSR wire.
good
Replace the temperature sensor.
no
Is "ENGINE TEMPERATURE SENSOR VALUE TOO HIGH" or "ENGINE TEMPERATURE SENSOR VALUE TOO LOW" present on the display screen?
yes
Replace the temperature sensor.
no
Is "ENGINE TEMPERATURE SENSOR SHORT TO 5V" present on the display screen?
yes
Check for an open in WH/RD C26TSR wire from pin 13 of the J3 connector at the ground controls to the engine temperature sensor on engine.
bad
Repair or replace the WH/RD C26TSR wire.
good
Replace oil pressure sensor.
no
Is "ENGINE TEMPERATURE SENSOR SHORT TO 0V" present on the display screen?
yes
Check for a short in the WH/RD C26TSR wire from pin 13 of the J3 connector at the ground controls to the engine temperature sensor on engine.
bad
Repair or replace the WH/RD C26TSR wire.
good
Replace the temperature sensor.
no
Continued on the next page.

CHART 4

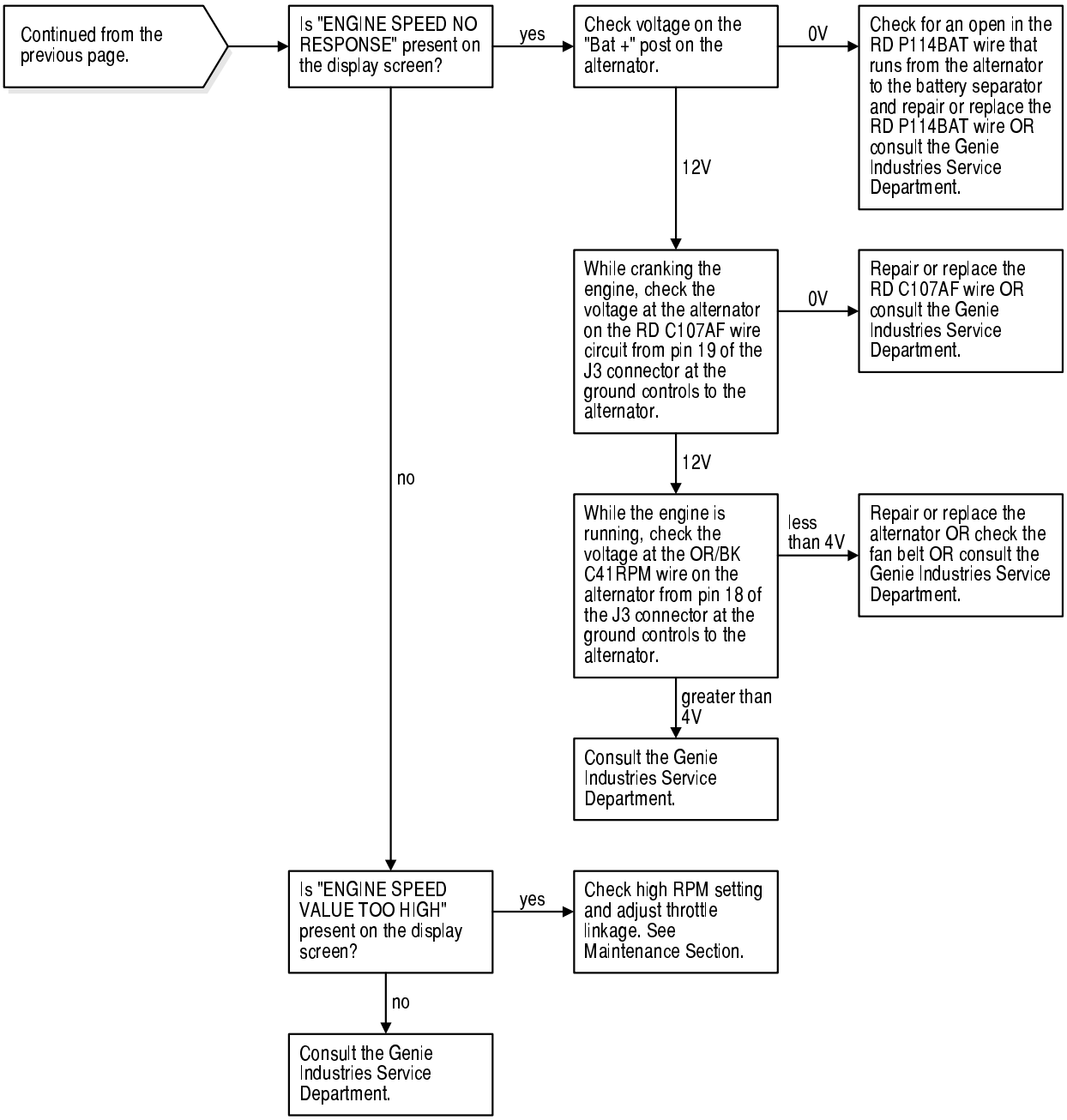

Continued from the previous page.
Is "ENGINE SPEED NO RESPONSE" present on the display screen?
yes
Check voltage on the "Bat +" post on the alternator.
0V
Check for an open in the RD P114BAT wire that runs from the alternator to the battery separator and repair or replace the RD P114BAT wire OR consult the Genie Industries Service Department.
12V
While cranking the engine, check the voltage at the alternator on the RD C107AF wire circuit from pin 19 of the J3 connector at the ground controls to the alternator.
0V
Repair or replace the RD C107AF wire OR consult the Genie Industries Service Department.
12V
no
While the engine is running, check the voltage at the OR/BK C41RPM wire on the alternator from pin 18 of the J3 connector at the ground controls to the alternator.
less than 4V
Repair or replace the alternator OR check the fan belt OR consult the Genie Industries Service Department.
greater than 4V
Consult the Genie Industries Service Department.
Is "ENGINE SPEED VALUE TOO HIGH" present on the display screen?
yes
Check high RPM setting and adjust throttle linkage. See Maintenance Section.
no
Consult the Genie Industries Service Department.

Chart 5

Engine High Idle Inoperative

Be sure mechanical linkage is not binding.

Be sure the batteries are fully charged and properly connected.

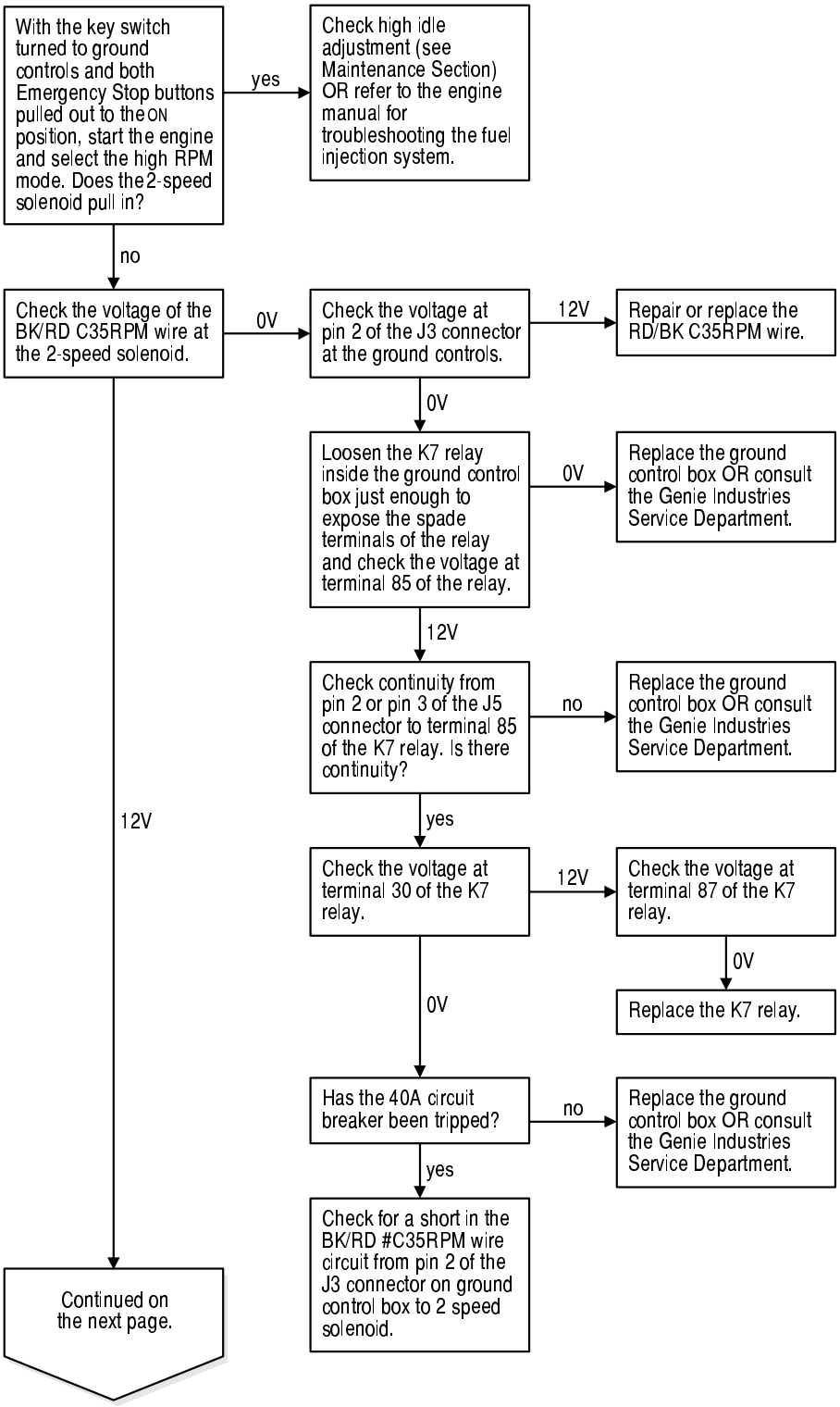

With the key switch turned to ground controls and both Emergency Stop buttons pulled out to the ON position, start the engine and select the high RPM mode. Does the 2-speed solenoid pull in?
yes
Check high idle adjustment (see Maintenance Section) OR refer to the engine manual for troubleshooting the fuel injection system.
no
Check the voltage of the BK/RD C35RPM wire at the 2-speed solenoid.
0V
Check the voltage at pin 2 of the J3 connector at the ground controls.
12V
Repair or replace the RD/BK C35RPM wire.
0V
Loosen the K7 relay inside the ground control box just enough to expose the spade terminals of the relay and check the voltage at terminal 85 of the relay.
0V
Replace the ground control box OR consult the Genie Industries Service Department.
12V
Check continuity from pin 2 or pin 3 of the J5 connector to terminal 85 of the K7 relay. Is there continuity?
no
Replace the ground control box OR consult the Genie Industries Service Department.
yes
12V
Check the voltage at terminal 30 of the K7 relay.
12V
Check the voltage at terminal 87 of the K7 relay.
0V
Replace the K7 relay.
0V
Has the 40A circuit breaker been tripped?
no
Replace the ground control box OR consult the Genie Industries Service Department.
yes
Check for a short in the BK/RD #C35RPM wire circuit from pin 2 of the J3 connector on ground control box to 2 speed solenoid.
Continued on the next page.

CHART 5

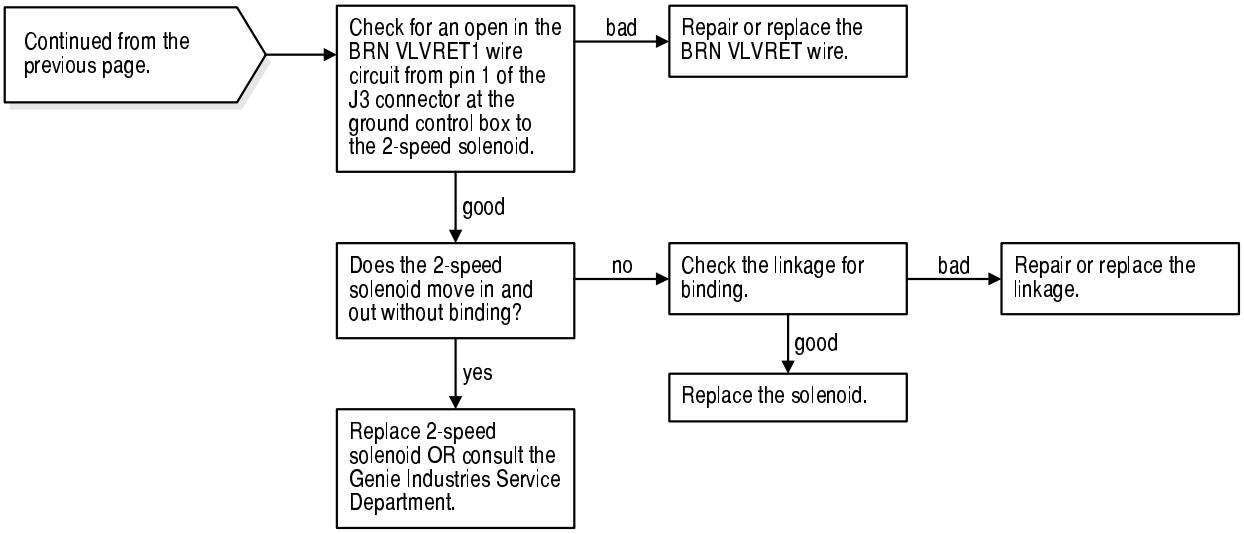

Continued from the previous page.
Check for an open in the BRN VLVRET1 wire circuit from pin 1 of the J3 connector at the ground control box to the 2-speed solenoid.
bad
Repair or replace the BRN VLVRET wire.
good
Does the 2-speed solenoid move in and out without binding?
no
Check the linkage for binding.
bad
Repair or replace the linkage.
good
Replace the solenoid.
yes
Replace 2-speed solenoid OR consult the Genie Industries Service Department.

Chart 6

Engine Low Idle Inoperative

Be sure that mechanical linkage from 2-speed solenoid to fuel injection system is not binding or is defective.

Be sure the batteries are fully charged and properly connected.

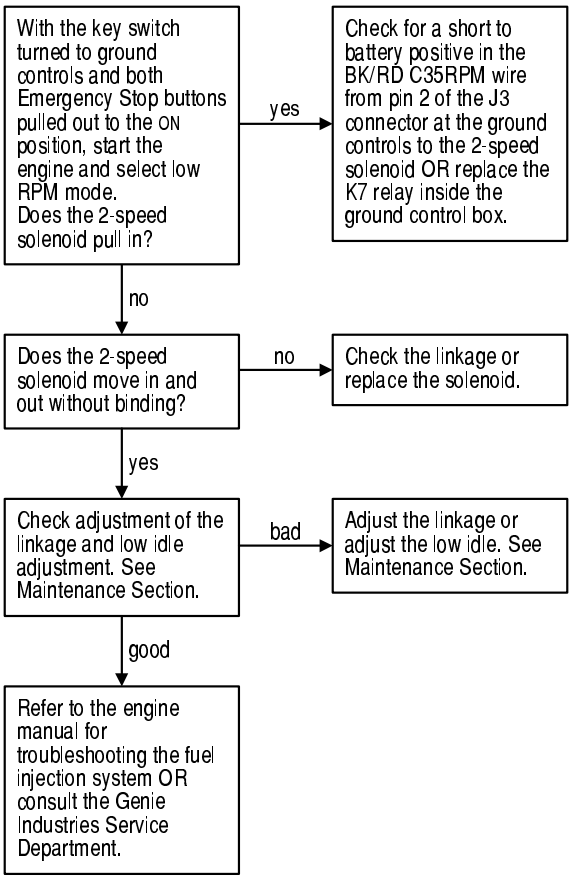

With the key switch turned to ground controls and both Emergency Stop buttons pulled out to the ON position, start the engine and select low RPM mode. Does the 2-speed solenoid pull in?
yes
Check for a short to battery positive in the BK/RD C35RPM wire from pin 2 of the J3 connector at the ground controls to the 2-speed solenoid OR replace the K7 relay inside the ground control box.
no
Does the 2-speed solenoid move in and out without binding?
no
Check the linkage or replace the solenoid.
yes
Check adjustment of the linkage and low idle adjustment. See Maintenance Section.
bad
Adjust the linkage or adjust the low idle. See Maintenance Section.
good
Refer to the engine manual for troubleshooting the fuel injection system OR consult the Genie Industries Service Department.

Chart 7

All Functions Inoperative, Engine Starts and Runs

Be sure the hydraulic suction line shutoff valves for the pumps are in the OPEN position.

Be sure the hydraulic tank is filled to the correct level.

Be sure the batteries are fully charged and properly connected.

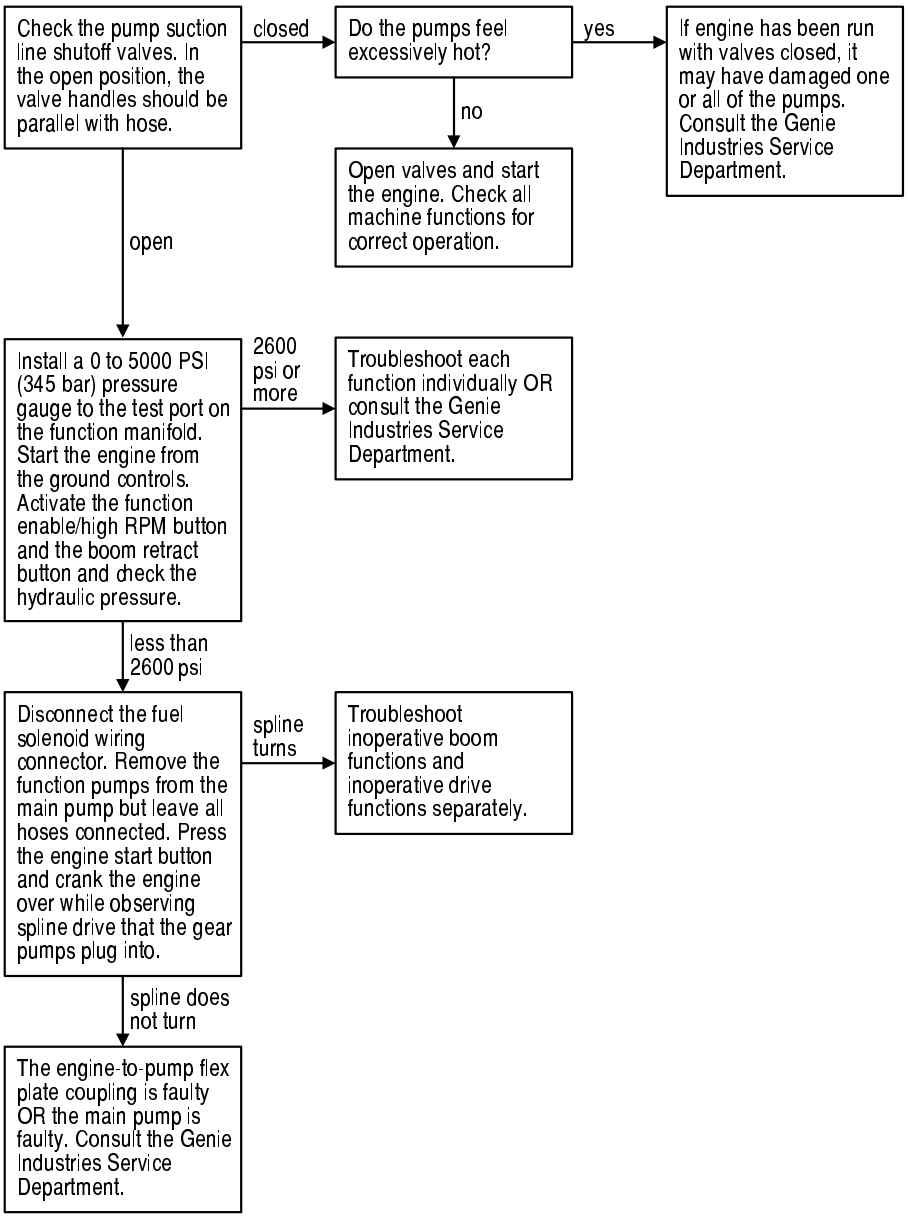

Check the pump suction line shutoff valves. In the open position, the valve handles should be parallel with hose.
closed
Do the pumps feel excessively hot?
yes
If engine has been run with valves closed, it may have damaged one or all of the pumps. Consult the Genie Industries Service Department.
no
Open valves and start the engine. Check all machine functions for correct operation.
open
Install a 0 to 5000 PSI (345 bar) pressure gauge to the test port on the function manifold. Start the engine from the ground controls. Activate the function enable/high RPM button and the boom retract button and check the hydraulic pressure.
2600 psi or more
Troubleshoot each function individually OR consult the Genie Industries Service Department.
less than 2600 psi
Disconnect the fuel solenoid wiring connector. Remove the function pumps from the main pump but leave all hoses connected. Press the engine start button and crank the engine over while observing spline drive that the gear pumps plug into.
spline turns
Troubleshoot inoperative boom functions and inoperative drive functions separately.
spline does not turn
The engine-to-pump flex plate coupling is faulty OR the main pump is faulty. Consult the Genie Industries Service Department.

Chart 8

Boom Up/Down, Extend/Retract, Turntable Rotate and Platform Functions Inoperative, Drive, Steer and Axle Extend/ Retract Functions Operational

Be sure the hydraulic suction line shutoff valve for the lift/steer pump is in the OPEN position.

Be sure the hydraulic tank is filled to the correct level.

Be sure the batteries are fully charged and properly connected.

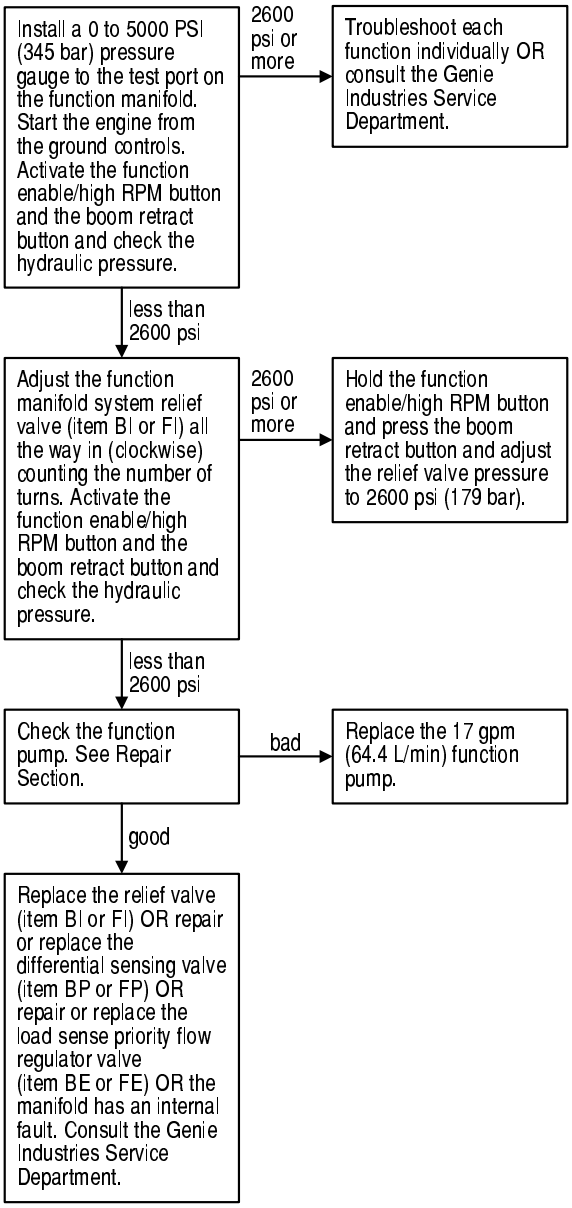

Install a 0 to 5000 PSI (345 bar) pressure gauge to the test port on the function manifold. Start the engine from the ground controls. Activate the function enable/high RPM button and the boom retract button and check the hydraulic pressure.
2600 psi or more
Troubleshoot each function individually OR consult the Genie Industries Service Department.
less than 2600 psi
Adjust the function manifold system relief valve (item BI or FI) all the way in (clockwise) counting the number of turns. Activate the function enable/high RPM button and the boom retract button and check the hydraulic pressure.
2600 psi or more
Hold the function enable/high RPM button and press the boom retract button and adjust the relief valve pressure to 2600 psi (179 bar).
less than 2600 psi
Check the function pump. See Repair Section.
bad
Replace the 17 gpm (64.4 L/min) function pump.
good
Replace the relief valve (item BI or FI) OR repair or replace the differential sensing valve (item BP or FP) OR repair or replace the load sense priority flow regulator valve (item BE or FE) OR the manifold has an internal fault. Consult the Genie Industries Service Department.

Chart 9

All Platform, Steering and Axle Functions Inoperative, All Other Functions Operational

Be sure the hydraulic suction line shutoff valve for the lift/steer pump is in the OPEN position.

Be sure the hydraulic tank is filled to the correct level.

Be sure the batteries are fully charged and properly connected.

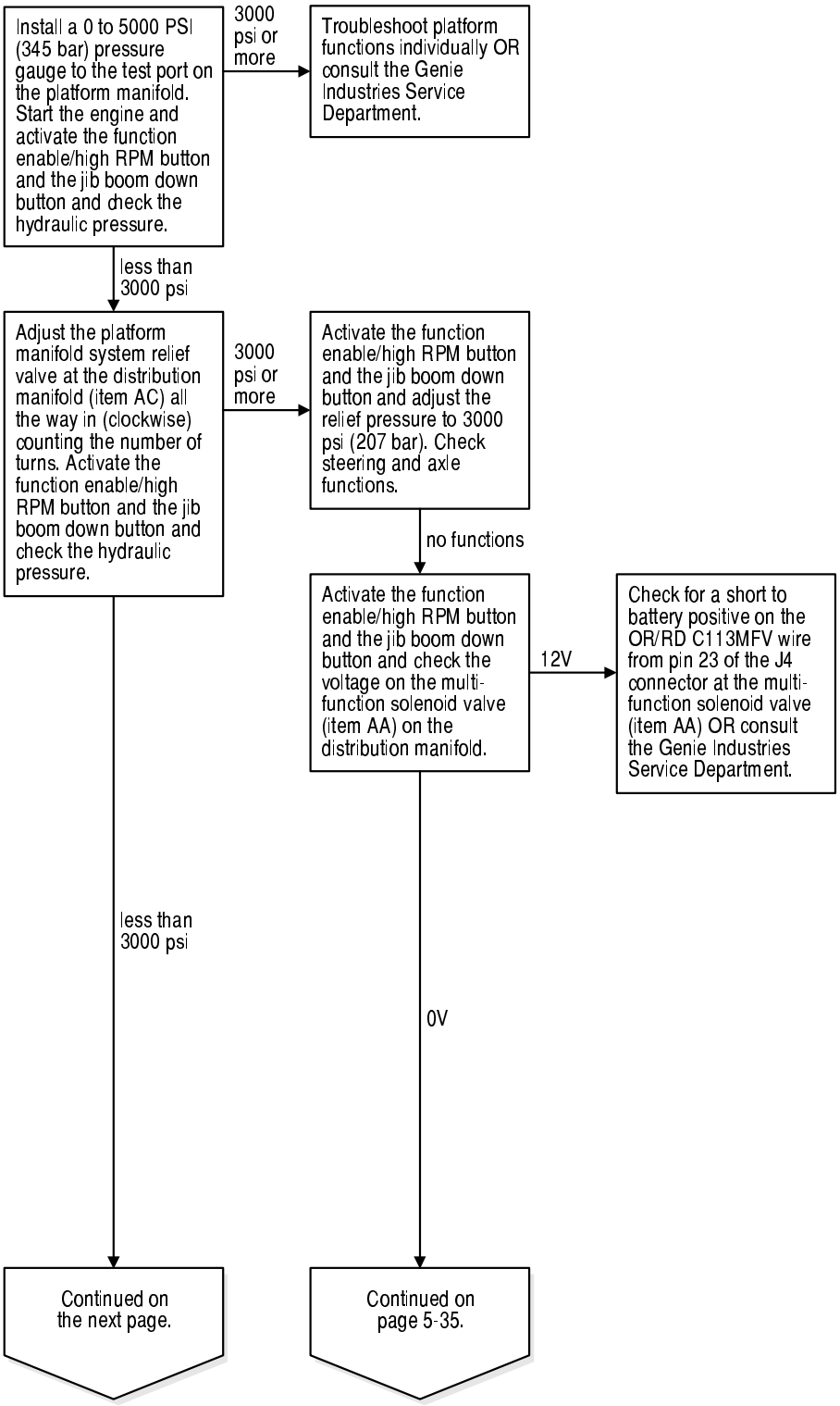

Install a 0 to 5000 PSI (345 bar) pressure gauge to the test port on the platform manifold. Start the engine and activate the function enable/high RPM button and the jib boom down button and check the hydraulic pressure.
3000 psi or more
Troubleshoot platform functions individually OR consult the Genie Industries Service Department.
less than 3000 psi
Adjust the platform manifold system relief valve at the distribution manifold (item AC) all the way in (clockwise) counting the number of turns. Activate the function enable/high RPM button and the jib boom down button and check the hydraulic pressure.
3000 psi or more
Activate the function enable/high RPM button and the jib boom down button and adjust the relief pressure to 3000 psi (207 bar). Check steering and axle functions.
no functions
Activate the function enable/high RPM button and the jib boom down button and check the voltage on the multi-function solenoid valve (item AA) on the distribution manifold.
12V
Check for a short to battery positive on the OR/RD C113MFV wire from pin 23 of the J4 connector at the multi-function solenoid valve (item AA) OR consult the Genie Industries Service Department.
less than 3000 psi
0V
Continued on the next page.
Continued on page 5-35.

CHART 9

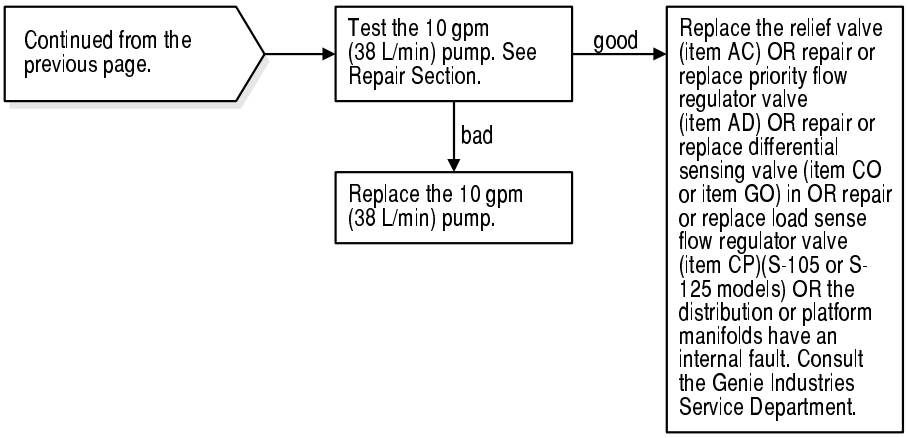

Continued from the previous page.
Test the 10 gpm (38 L/min) pump. See Repair Section.
good
bad
Replace the 10 gpm (38 L/min) pump.
Replace the relief valve (item AC) OR repair or replace priority flow regulator valve (item AD) OR repair or replace differential sensing valve (item CO or item GO) in OR repair or replace load sense flow regulator valve (item CP)(S-105 or S-125 models) OR the distribution or platform manifolds have an internal fault. Consult the Genie Industries Service Department.

CHART 9

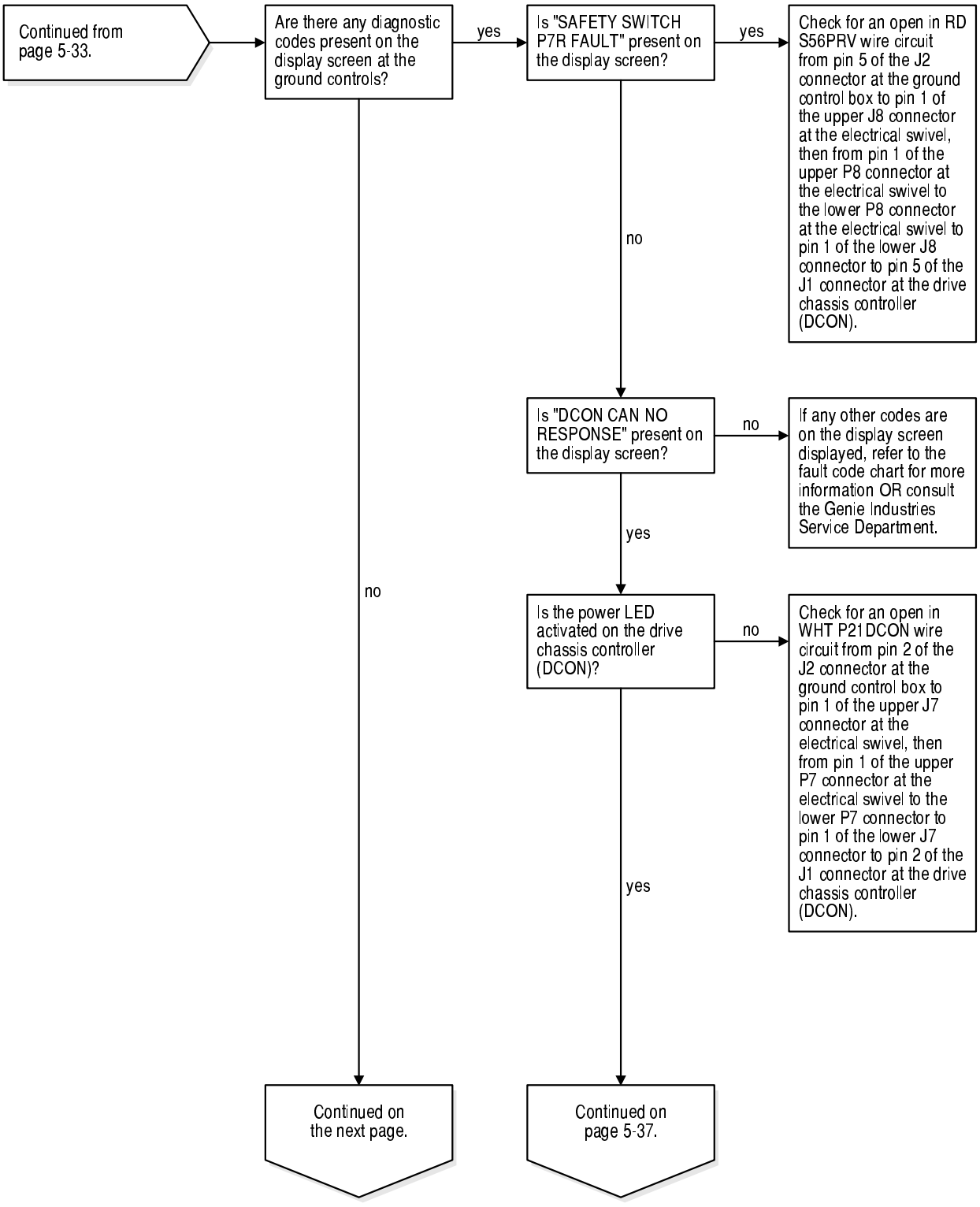

Continued from page 5-33.
Are there any diagnostic codes present on the display screen at the ground controls?
yes
Is "SAFETY SWITCH P7R FAULT" present on the display screen?
yes
Check for an open in RD S56PRV wire circuit from pin 5 of the J2 connector at the ground control box to pin 1 of the upper J8 connector at the electrical swivel, then from pin 1 of the upper P8 connector at the electrical swivel to the lower P8 connector at the electrical swivel to pin 1 of the lower J8 connector to pin 5 of the J1 connector at the drive chassis controller (DCON).
no
Is "DCON CAN NO RESPONSE" present on the display screen?
no
If any other codes are on the display screen displayed, refer to the fault code chart for more information OR consult the Genie Industries Service Department.
yes
no
Is the power LED activated on the drive chassis controller (DCON)?
no
Check for an open in WHT P21DCON wire circuit from pin 2 of the J2 connector at the ground control box to pin 1 of the upper J7 connector at the electrical swivel, then from pin 1 of the upper P7 connector at the electrical swivel to the lower P7 connector to pin 1 of the lower J7 connector to pin 2 of the J1 connector at the drive chassis controller (DCON).
yes
Continued on the next page.
Continued on page 5-37.

CHART 9

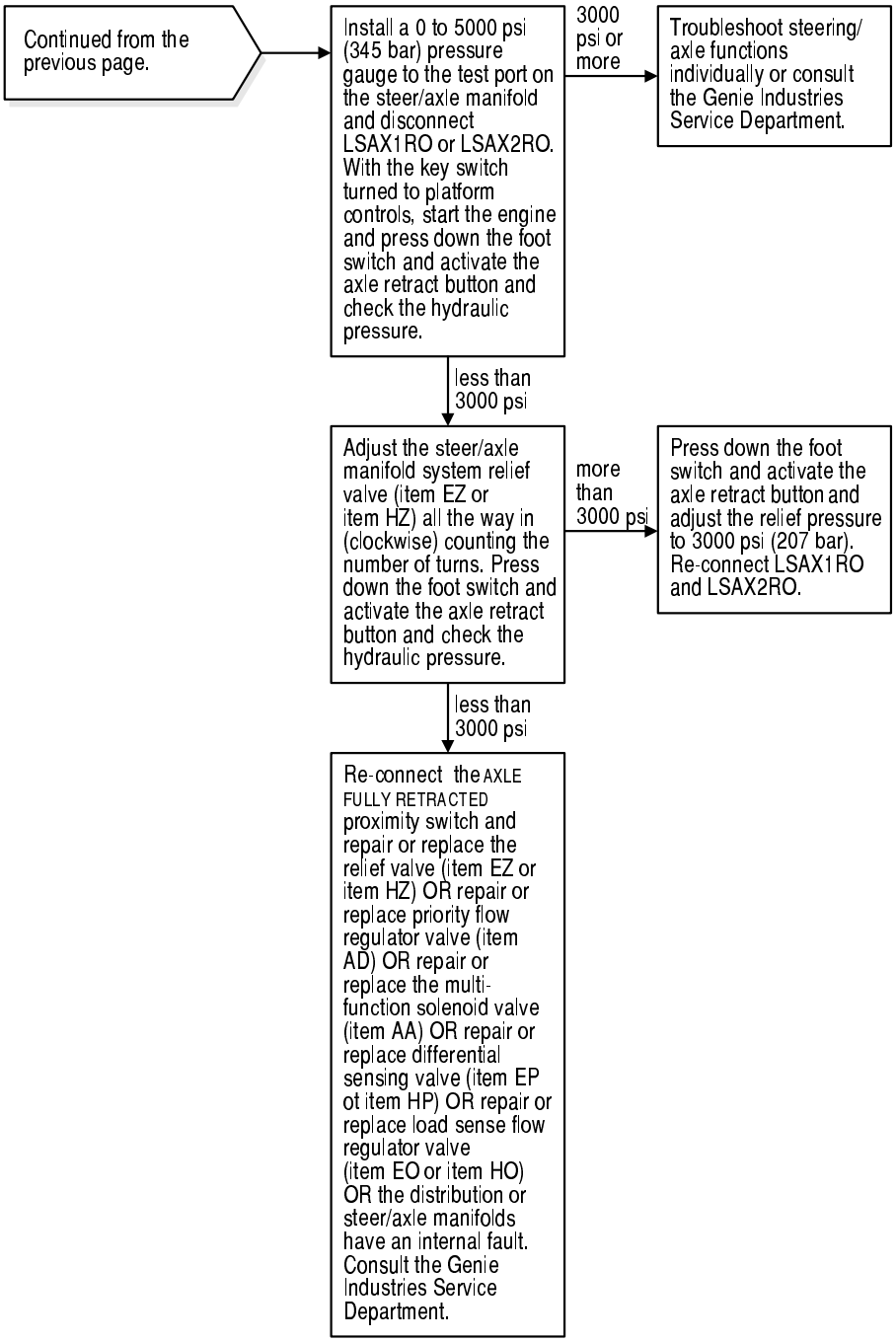

Continued from the previous page.
Install a 0 to 5000 psi (345 bar) pressure gauge to the test port on the steer/axle manifold and disconnect LSAX1RO or LSAX2RO. With the key switch turned to platform controls, start the engine and press down the foot switch and activate the axle retract button and check the hydraulic pressure.
3000 psi or more
Troubleshoot steering/ axle functions individually or consult the Genie Industries Service Department.
less than 3000 psi
Adjust the steer/axle manifold system relief valve (item EZ or item HZ) all the way in (clockwise) counting the number of turns. Press down the foot switch and activate the axle retract button and check the hydraulic pressure.
more than 3000 psi
Press down the foot switch and activate the axle retract button and adjust the relief pressure to 3000 psi (207 bar). Re-connect LSAX1RO and LSAX2RO.
less than 3000 psi
Re-connect the AXLE FULLY RETRACTED proximity switch and repair or replace the relief valve (item EZ or item HZ) OR repair or replace priority flow regulator valve (item AD) OR repair or replace the multi-function solenoid valve (item AA) OR repair or replace differential sensing valve (item EP ot item HP) OR repair or replace load sense flow regulator valve (item EO or item HO) OR the distribution or steer/axle manifolds have an internal fault. Consult the Genie Industries Service Department.

CHART 9

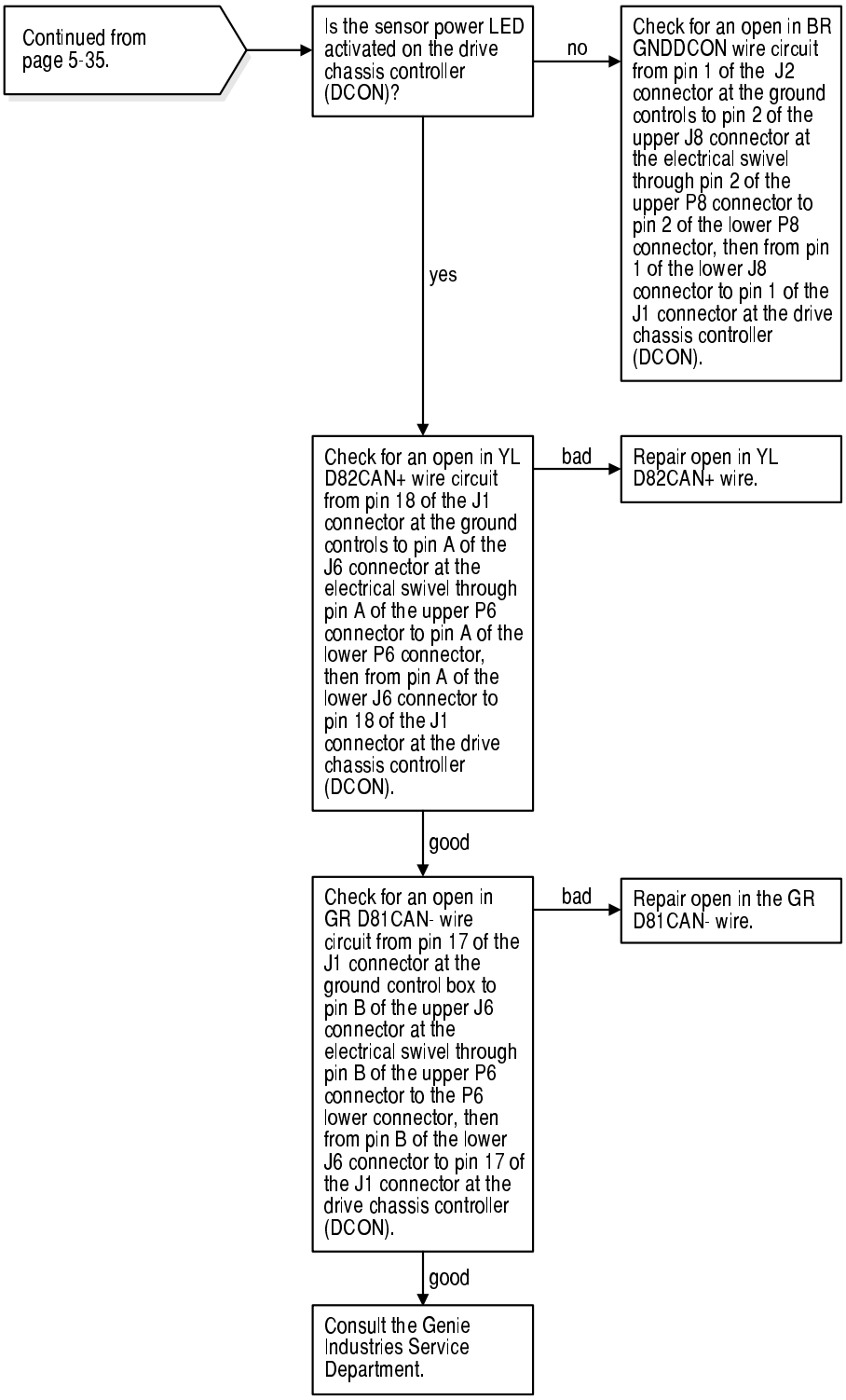

Continued from page 5-35.
Is the sensor power LED activated on the drive chassis controller (DCON)?
no
Check for an open in BR GNDDCON wire circuit from pin 1 of the J2 connector at the ground controls to pin 2 of the upper J8 connector at the electrical swivel through pin 2 of the upper P8 connector to pin 2 of the lower P8 connector, then from pin 1 of the lower J8 connector to pin 1 of the J1 connector at the drive chassis controller (DCON).
yes
Check for an open in YL D82CAN+ wire circuit from pin 18 of the J1 connector at the ground controls to pin A of the J6 connector at the electrical swivel through pin A of the upper P6 connector to pin A of the lower P6 connector, then from pin A of the lower J6 connector to pin 18 of the J1 connector at the drive chassis controller (DCON).
bad
Repair open in YL D82CAN+ wire.
good
Check for an open in GR D81CAN- wire circuit from pin 17 of the J1 connector at the ground control box to pin B of the upper J6 connector at the electrical swivel through pin B of the upper P6 connector to the P6 lower connector, then from pin B of the lower J6 connector to pin 17 of the J1 connector at the drive chassis controller (DCON).
bad
Repair open in the GR D81CAN- wire.
good
Consult the Genie Industries Service Department.

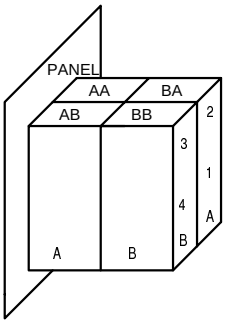
Chart 10

Ground Controls Inoperative, Platform Controls Operate Normally

Be sure all other functions operate normally, including the platform controls.

Be sure the batteries are fully charged and properly connected.

Key switch contact legend



With the ground controls Emergency Stop button pulled out to the ON position, check the voltage on the PK wire at terminal 3 of key switch contact "AB" (the pink wire checked should originate at the Emergency Stop button).

0V → Repair open in PK wire from the Emergency Stop button to the key switch.

12V

With the key switch turned to ground controls and the Emergency Stop button pulled out to the ON position, check the voltage on the OR wire at terminal 4 of key switch contact "AB".

0V → Check to see if the key switch internal cam is activating key switch contact "AB".

yes → Replace key switch contact "AB".

no → Replace the key switch.

12V

With the ground control Emergency Stop button pulled out to the ON position, check the voltage on the GR wire at terminal 3 of key switch contact "BB" (the green wire checked should originate at pin 3 of the J7 connector).

0V → Repair open in GR wire.

12V

Continued on the next page.

CHART 10

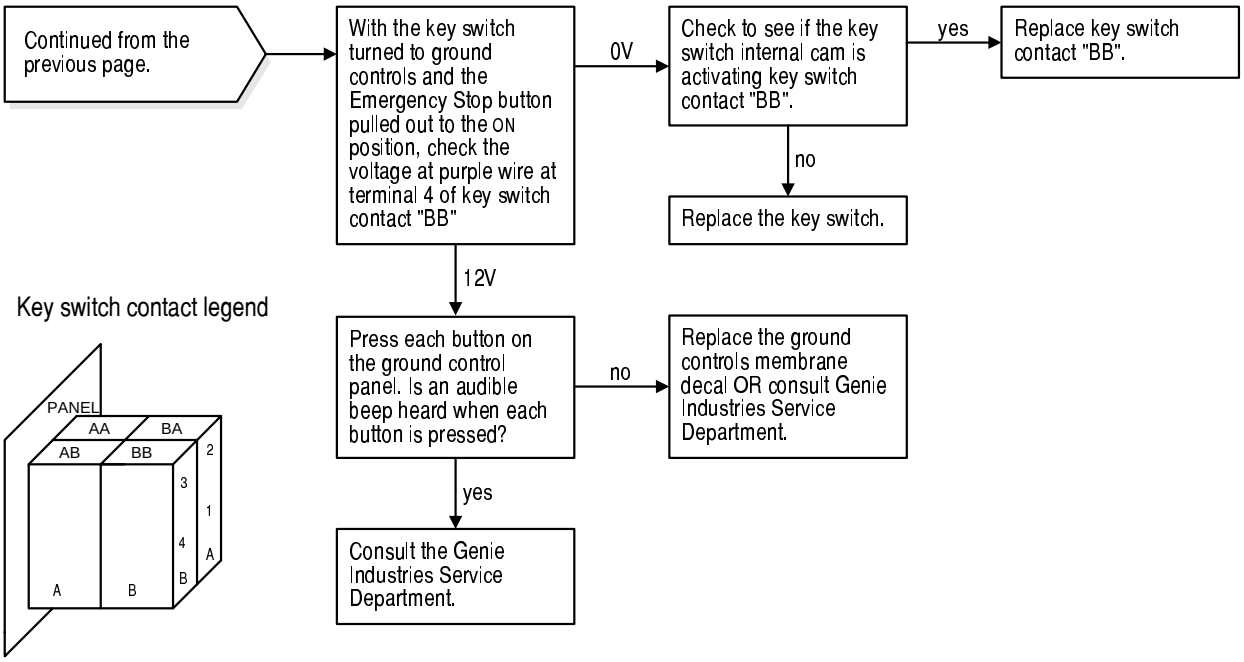

Continued from the previous page.
With the key switch turned to ground controls and the Emergency Stop button pulled out to the ON position, check the voltage at purple wire at terminal 4 of key switch contact "BB"
0V
Check to see if the key switch internal cam is activating key switch contact "BB".
yes
Replace key switch contact "BB".
no
Replace the key switch.
12V
Press each button on the ground control panel. Is an audible beep heard when each button is pressed?
no
Replace the ground controls membrane decal OR consult Genie Industries Service Department.
yes
Consult the Genie Industries Service Department.
Key switch contact legend
PANEL
AA
BA
AB
BB
2
3
1
4
A
B
A
B

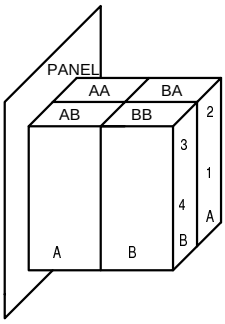
Chart 11

Platform Controls Inoperative, Ground Controls Operate Normally

Be sure all cables from chassis through the cable track are in good condition with no kinks or abrasions.

Be sure the batteries are fully charged and properly connected.

Key switch contact legend



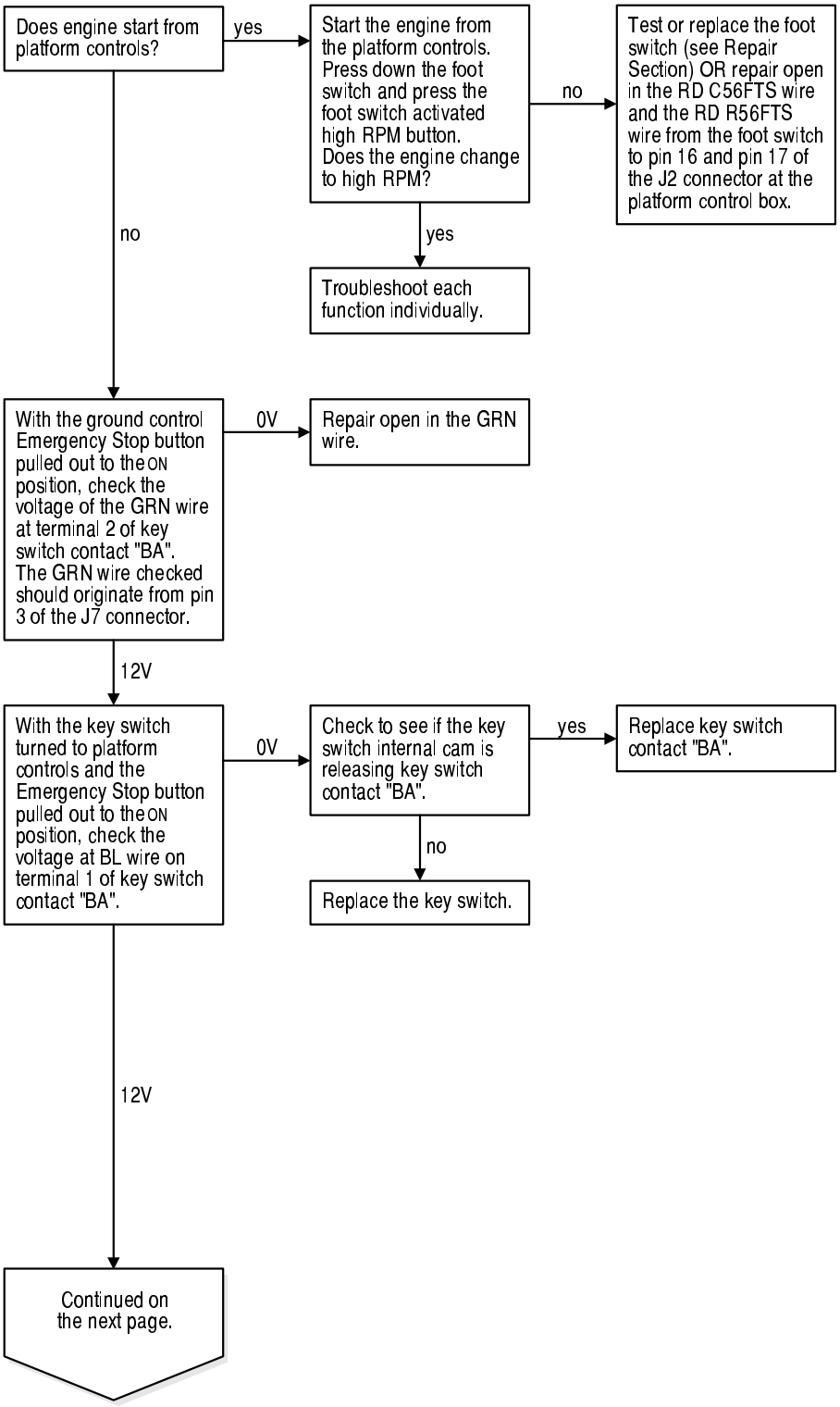

Does engine start from platform controls?
yes
Start the engine from the platform controls. Press down the foot switch and press the foot switch activated high RPM button. Does the engine change to high RPM?
no
Test or replace the foot switch (see Repair Section) OR repair open in the RD C56FTS wire and the RD R56FTS wire from the foot switch to pin 16 and pin 17 of the J2 connector at the platform control box.
yes
Troubleshoot each function individually.
no
With the ground control Emergency Stop button pulled out to the ON position, check the voltage of the GRN wire at terminal 2 of key switch contact "BA". The GRN wire checked should originate from pin 3 of the J7 connector.
0V
Repair open in the GRN wire.
12V
With the key switch turned to platform controls and the Emergency Stop button pulled out to the ON position, check the voltage at BL wire on terminal 1 of key switch contact "BA".
0V
Check to see if the key switch internal cam is releasing key switch contact "BA".
yes
Replace key switch contact "BA".
no
Replace the key switch.
12V
Continued on the next page.

CHART 11

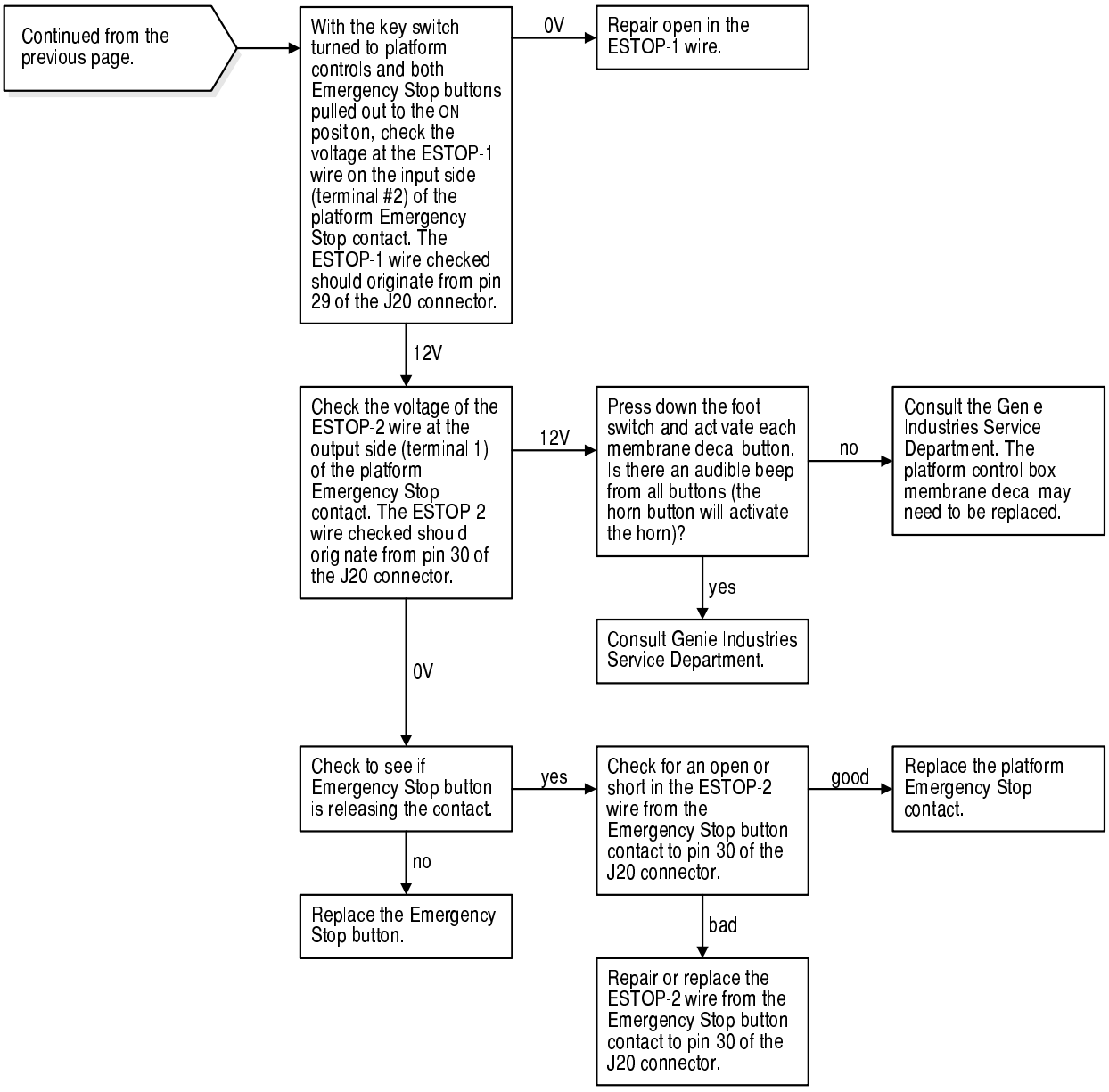

Continued from the previous page.
With the key switch turned to platform controls and both Emergency Stop buttons pulled out to the ON position, check the voltage at the ESTOP-1 wire on the input side (terminal #2) of the platform Emergency Stop contact. The ESTOP-1 wire checked should originate from pin 29 of the J20 connector.
0V
Repair open in the ESTOP-1 wire.
12V
Check the voltage of the ESTOP-2 wire at the output side (terminal 1) of the platform Emergency Stop contact. The ESTOP-2 wire checked should originate from pin 30 of the J20 connector.
12V
Press down the foot switch and activate each membrane decal button. Is there an audible beep from all buttons (the horn button will activate the horn)?
no
Consult the Genie Industries Service Department. The platform control box membrane decal may need to be replaced.
yes
Consult Genie Industries Service Department.
0V
Check to see if Emergency Stop button is releasing the contact.
yes
Check for an open or short in the ESTOP-2 wire from the Emergency Stop button contact to pin 30 of the J20 connector.
good
Replace the platform Emergency Stop contact.
no
Replace the Emergency Stop button.
bad
Repair or replace the ESTOP-2 wire from the Emergency Stop button contact to pin 30 of the J20 connector.

Chart 12

Boom Angle Switch Fault

Be sure the machine is on level ground.

Be sure the boom angle limit switches are properly connected to the correct wiring harness leads.

Be sure the batteries are fully charged and properly connected.

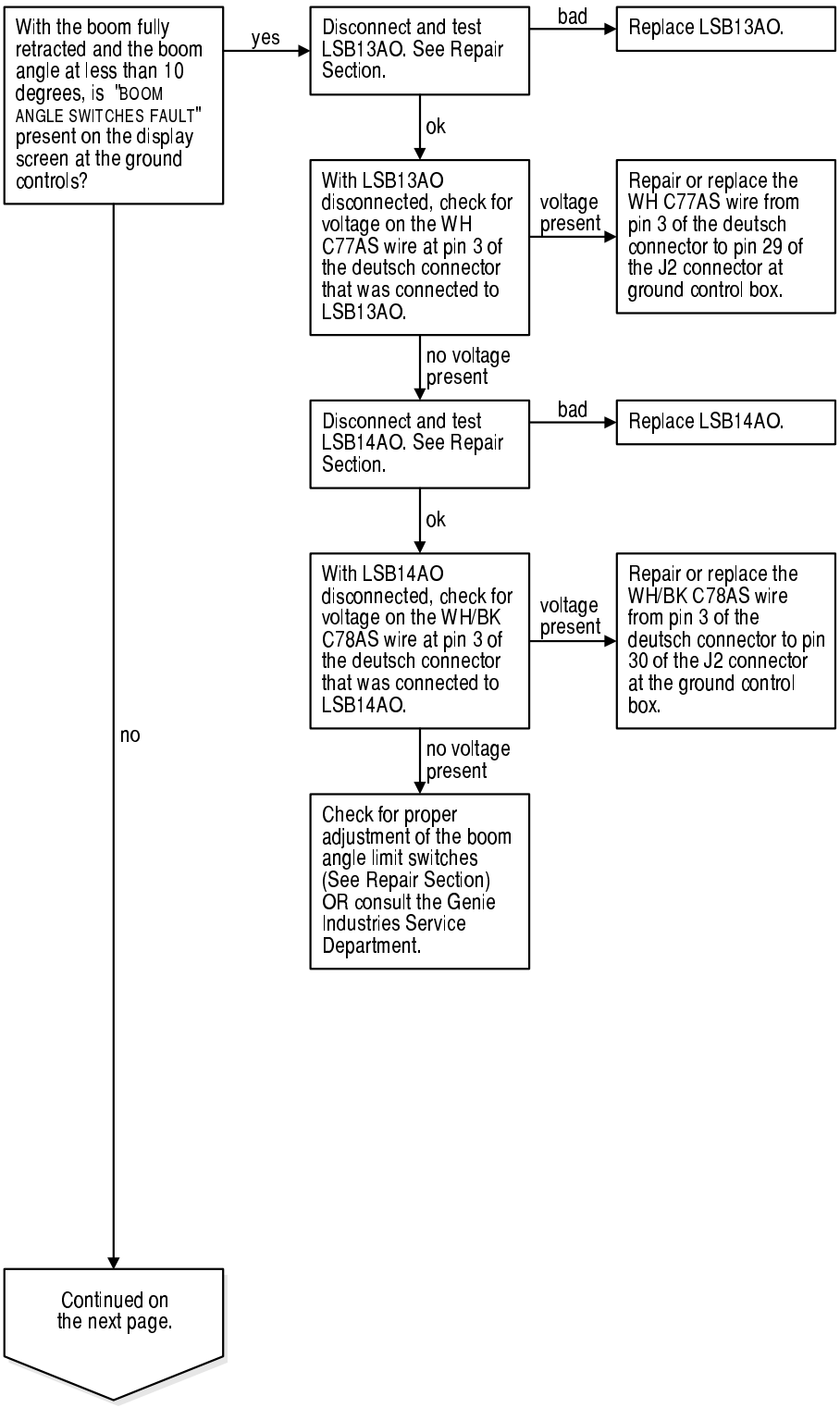

With the boom fully retracted and the boom angle at less than 10 degrees, is "BOOM ANGLE SWITCHES FAULT" present on the display screen at the ground controls?
yes
Disconnect and test LSB13AO. See Repair Section.
bad
Replace LSB13AO.
ok
With LSB13AO disconnected, check for voltage on the WH C77AS wire at pin 3 of the deutsch connector that was connected to LSB13AO.
voltage present
Repair or replace the WH C77AS wire from pin 3 of the deutsch connector to pin 29 of the J2 connector at ground control box.
no voltage present
Disconnect and test LSB14AO. See Repair Section.
bad
Replace LSB14AO.
ok
With LSB14AO disconnected, check for voltage on the WH/BK C78AS wire at pin 3 of the deutsch connector that was connected to LSB14AO.
voltage present
Repair or replace the WH/BK C78AS wire from pin 3 of the deutsch connector to pin 30 of the J2 connector at the ground control box.
no voltage present
Check for proper adjustment of the boom angle limit switches (See Repair Section) OR consult the Genie Industries Service Department.
no
Continued on the next page.

CHART 12

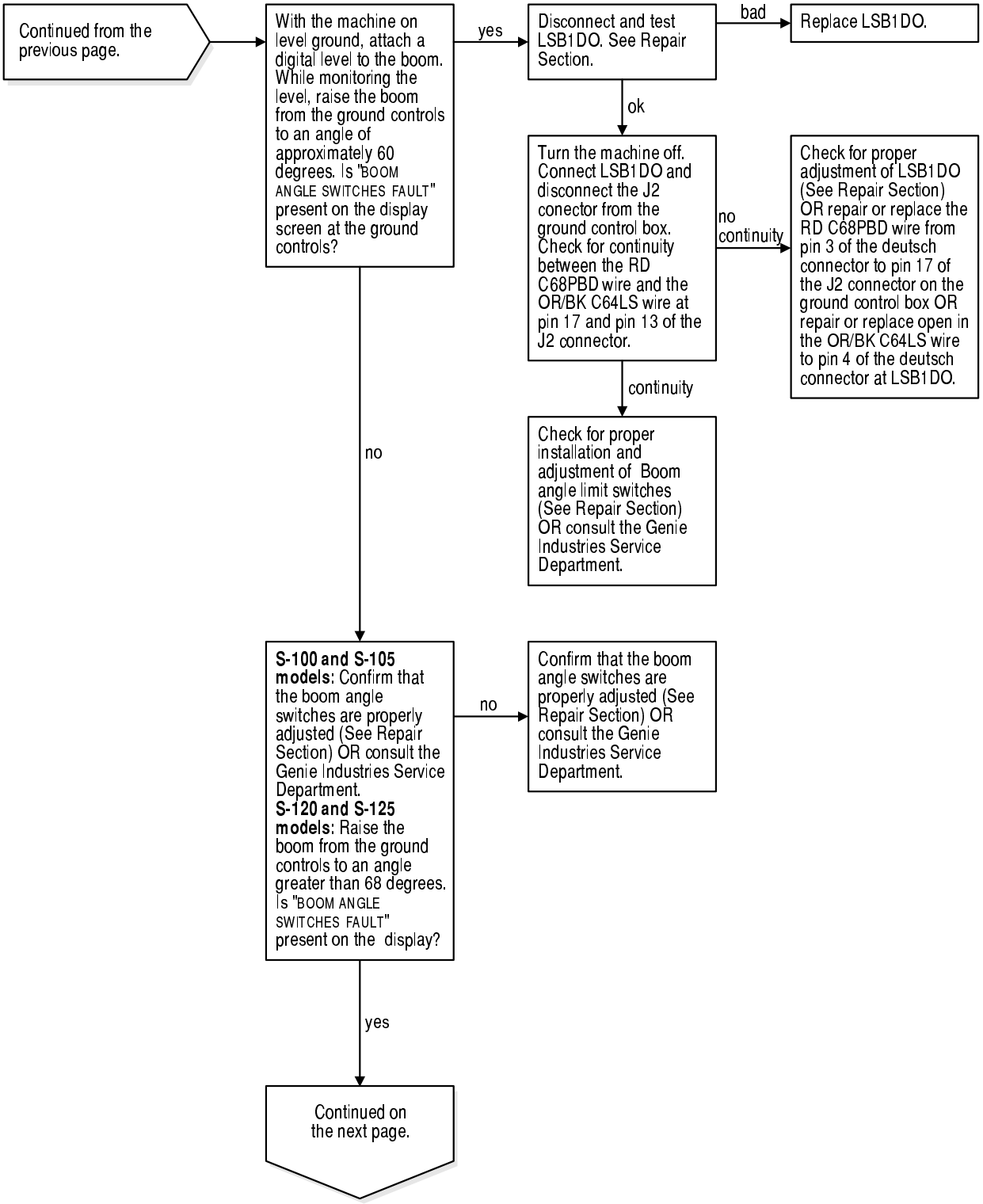

Continued from the previous page.
With the machine on level ground, attach a digital level to the boom. While monitoring the level, raise the boom from the ground controls to an angle of approximately 60 degrees. Is "BOOM ANGLE SWITCHES FAULT" present on the display screen at the ground controls?
yes
Disconnect and test LSB1DO. See Repair Section.
bad
Replace LSB1DO.
ok
Turn the machine off. Connect LSB1DO and disconnect the J2 conector from the ground control box. Check for continuity between the RD C68PBD wire and the OR/BK C64LS wire at pin 17 and pin 13 of the J2 connector.
no continuity
Check for proper adjustment of LSB1DO (See Repair Section) OR repair or replace the RD C68PBD wire from pin 3 of the deutsch connector to pin 17 of the J2 connector on the ground control box OR repair or replace open in the OR/BK C64LS wire to pin 4 of the deutsch connector at LSB1DO.
continuity
Check for proper installation and adjustment of Boom angle limit switches (See Repair Section) OR consult the Genie Industries Service Department.
no
S-100 and S-105 models: Confirm that the boom angle switches are properly adjusted (See Repair Section) OR consult the Genie Industries Service Department.
S-120 and S-125 models: Raise the boom from the ground controls to an angle greater than 68 degrees. Is "BOOM ANGLE SWITCHES FAULT" present on the display?
no
Confirm that the boom angle switches are properly adjusted (See Repair Section) OR consult the Genie Industries Service Department.
yes
Continued on the next page.

CHART 12

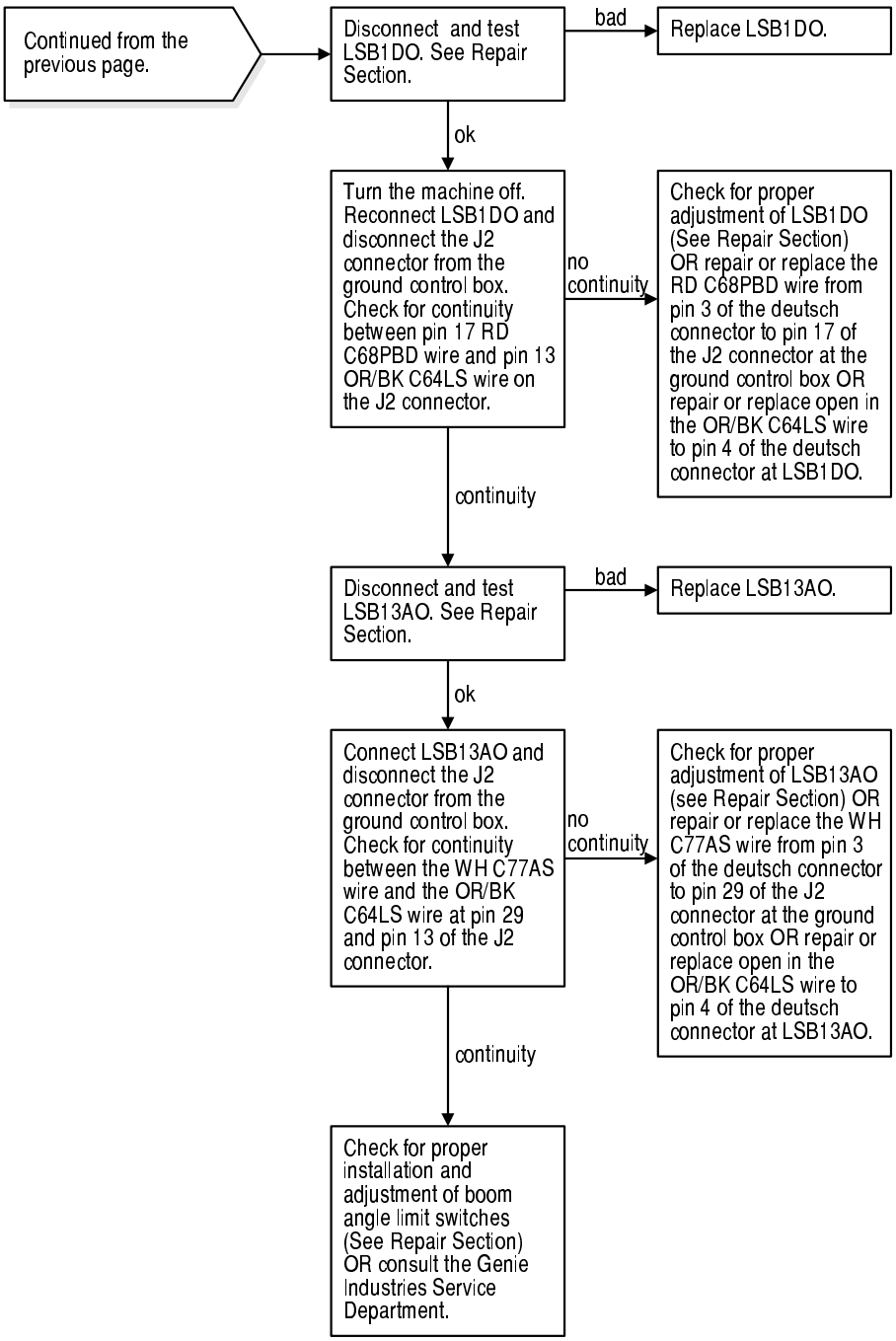

Continued from the previous page.
Disconnect and test LSB1DO. See Repair Section.
bad
Replace LSB1DO.
ok
Turn the machine off. Reconnect LSB1DO and disconnect the J2 connector from the ground control box. Check for continuity between pin 17 RD C68PBD wire and pin 13 OR/BK C64LS wire on the J2 connector.
no continuity
Check for proper adjustment of LSB1DO (See Repair Section) OR repair or replace the RD C68PBD wire from pin 3 of the deutsch connector to pin 17 of the J2 connector at the ground control box OR repair or replace open in the OR/BK C64LS wire to pin 4 of the deutsch connector at LSB1DO.
continuity
Disconnect and test LSB13AO. See Repair Section.
bad
Replace LSB13AO.
ok
Connect LSB13AO and disconnect the J2 connector from the ground control box. Check for continuity between the WH C77AS wire and the OR/BK C64LS wire at pin 29 and pin 13 of the J2 connector.
no continuity
Check for proper adjustment of LSB13AO (see Repair Section) OR repair or replace the WH C77AS wire from pin 3 of the deutsch connector to pin 29 of the J2 connector at the ground control box OR repair or replace open in the OR/BK C64LS wire to pin 4 of the deutsch connector at LSB13AO.
continuity
Check for proper installation and adjustment of boom angle limit switches (See Repair Section) OR consult the Genie Industries Service Department.

Chart 13

Boom Up Function Inoperative

Be sure all other functions operate normally.

Be sure the axles are fully extended.

Be sure the platform is level to gravity within 7 degrees.

Be sure the batteries are fully charged and properly connected.

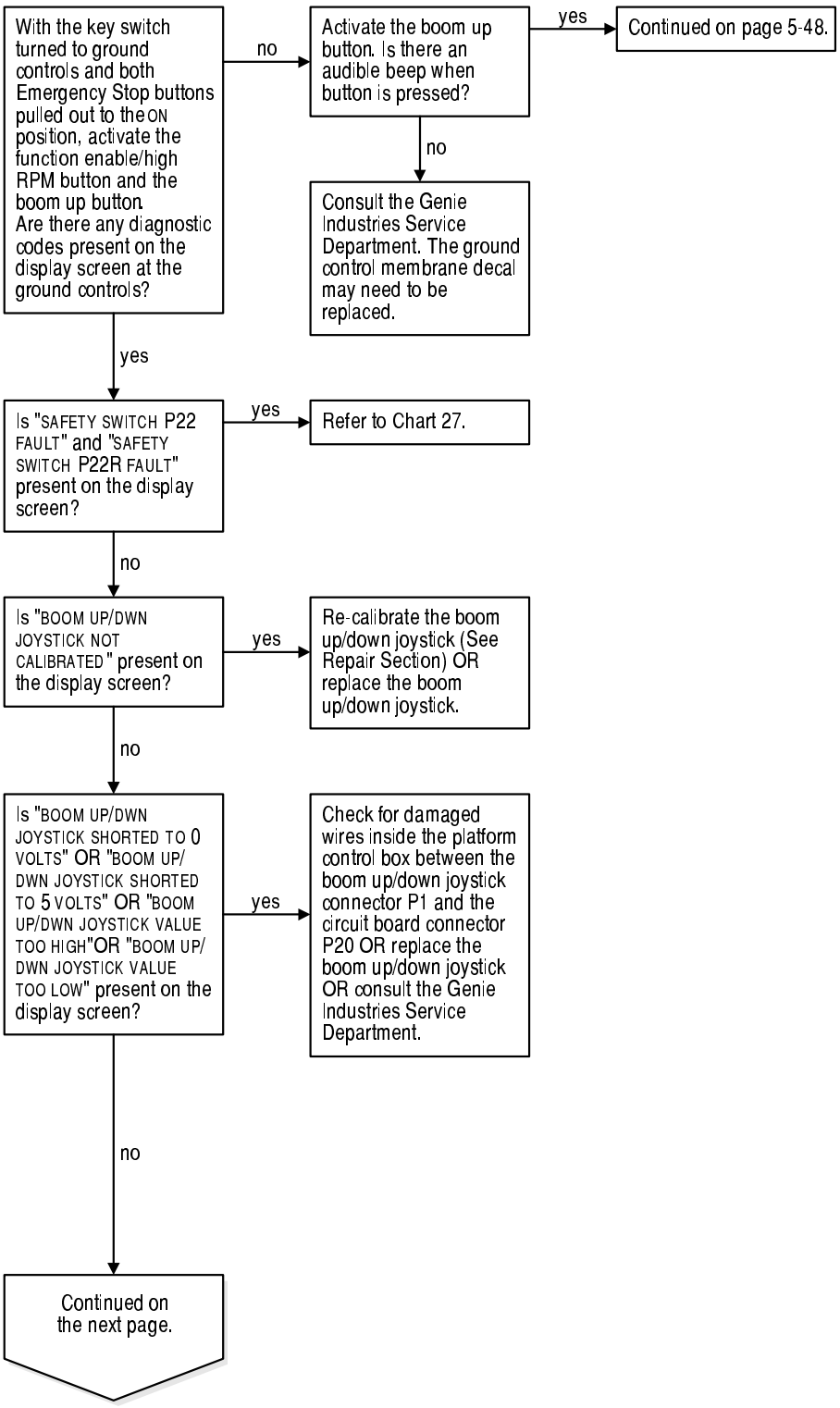

With the key switch turned to ground controls and both Emergency Stop buttons pulled out to the ON position, activate the function enable/high RPM button and the boom up button. Are there any diagnostic codes present on the display screen at the ground controls?
no
Activate the boom up button. Is there an audible beep when button is pressed?
yes
Continued on page 5-48.
no
Consult the Genie Industries Service Department. The ground control membrane decal may need to be replaced.
yes
Is "SAFETY SWITCH P22 FAULT" and "SAFETY SWITCH P22R FAULT" present on the display screen?
yes
Refer to Chart 27.
no
Is "BOOM UP/DWN JOYSTICK NOT CALIBRATED" present on the display screen?
yes
Re-calibrate the boom up/down joystick (See Repair Section) OR replace the boom up/down joystick.
no
Is "BOOM UP/DWN JOYSTICK SHORTED TO 0 VOLTS" OR "BOOM UP/DWN JOYSTICK SHORTED TO 5 VOLTS" OR "BOOM UP/DWN JOYSTICK VALUE TOO HIGH"OR "BOOM UP/DWN JOYSTICK VALUE TOO LOW" present on the display screen?
yes
Check for damaged wires inside the platform control box between the boom up/down joystick connector P1 and the circuit board connector P20 OR replace the boom up/down joystick OR consult the Genie Industries Service Department.
no
Continued on the next page.

CHART 13

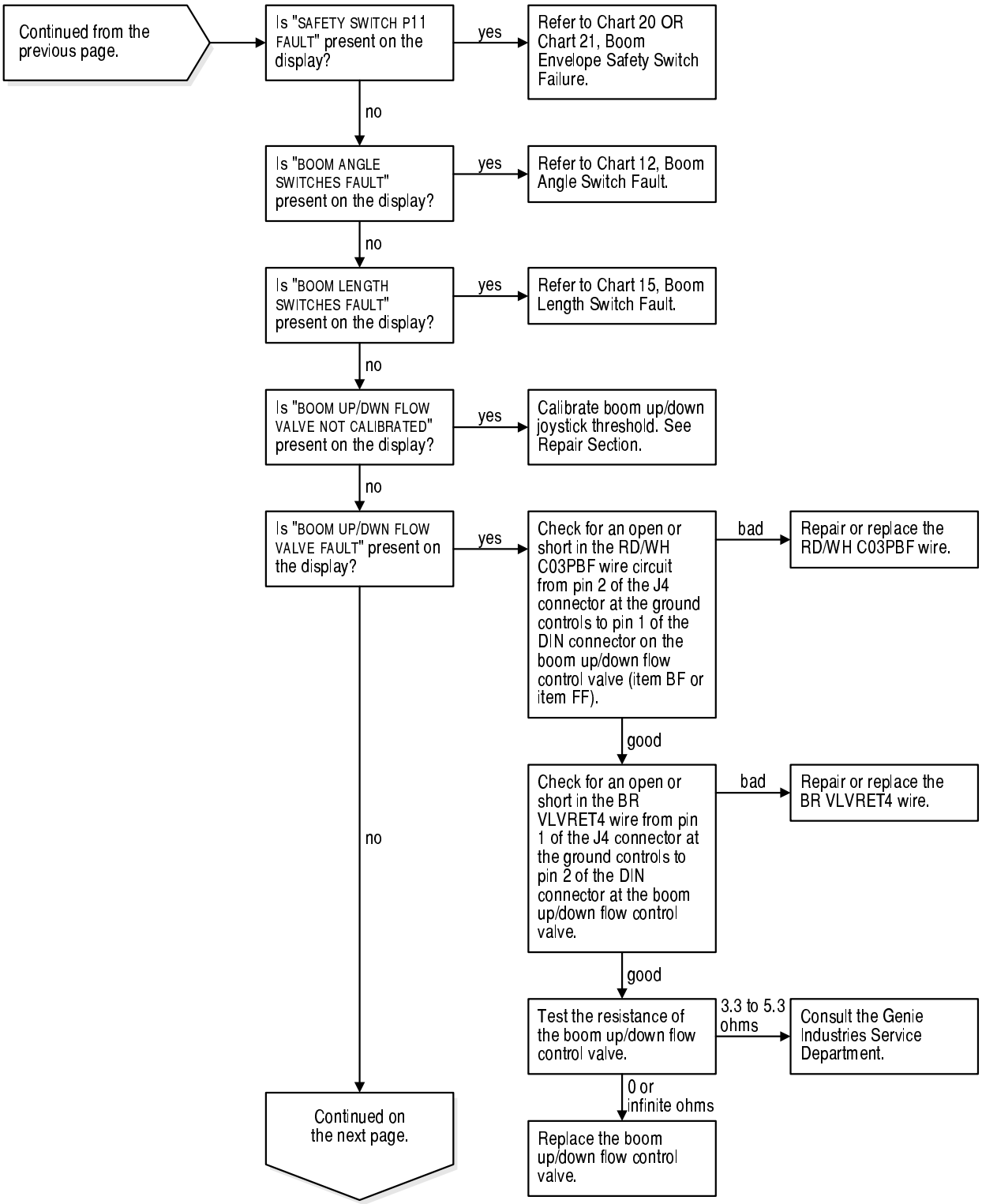

Continued from the previous page.
Is "SAFETY SWITCH P11 FAULT" present on the display?
yes
Refer to Chart 20 OR Chart 21, Boom Envelope Safety Switch Failure.
no
Is "BOOM ANGLE SWITCHES FAULT" present on the display?
yes
Refer to Chart 12, Boom Angle Switch Fault.
no
Is "BOOM LENGTH SWITCHES FAULT" present on the display?
yes
Refer to Chart 15, Boom Length Switch Fault.
no
Is "BOOM UP/DWN FLOW VALVE NOT CALIBRATED" present on the display?
yes
Calibrate boom up/down joystick threshold. See Repair Section.
no
Is "BOOM UP/DWN FLOW VALVE FAULT" present on the display?
yes
Check for an open or short in the RD/WH C03PBF wire circuit from pin 2 of the J4 connector at the ground controls to pin 1 of the DIN connector on the boom up/down flow control valve (item BF or item FF).
bad
Repair or replace the RD/WH C03PBF wire.
good
Check for an open or short in the BR VLVRET4 wire from pin 1 of the J4 connector at the ground controls to pin 2 of the DIN connector at the boom up/down flow control valve.
bad
Repair or replace the BR VLVRET4 wire.
good
Test the resistance of the boom up/down flow control valve.
3.3 to 5.3 ohms
Consult the Genie Industries Service Department.
0 or infinite ohms
Replace the boom up/down flow control valve.
no
Continued on the next page.

CHART 13

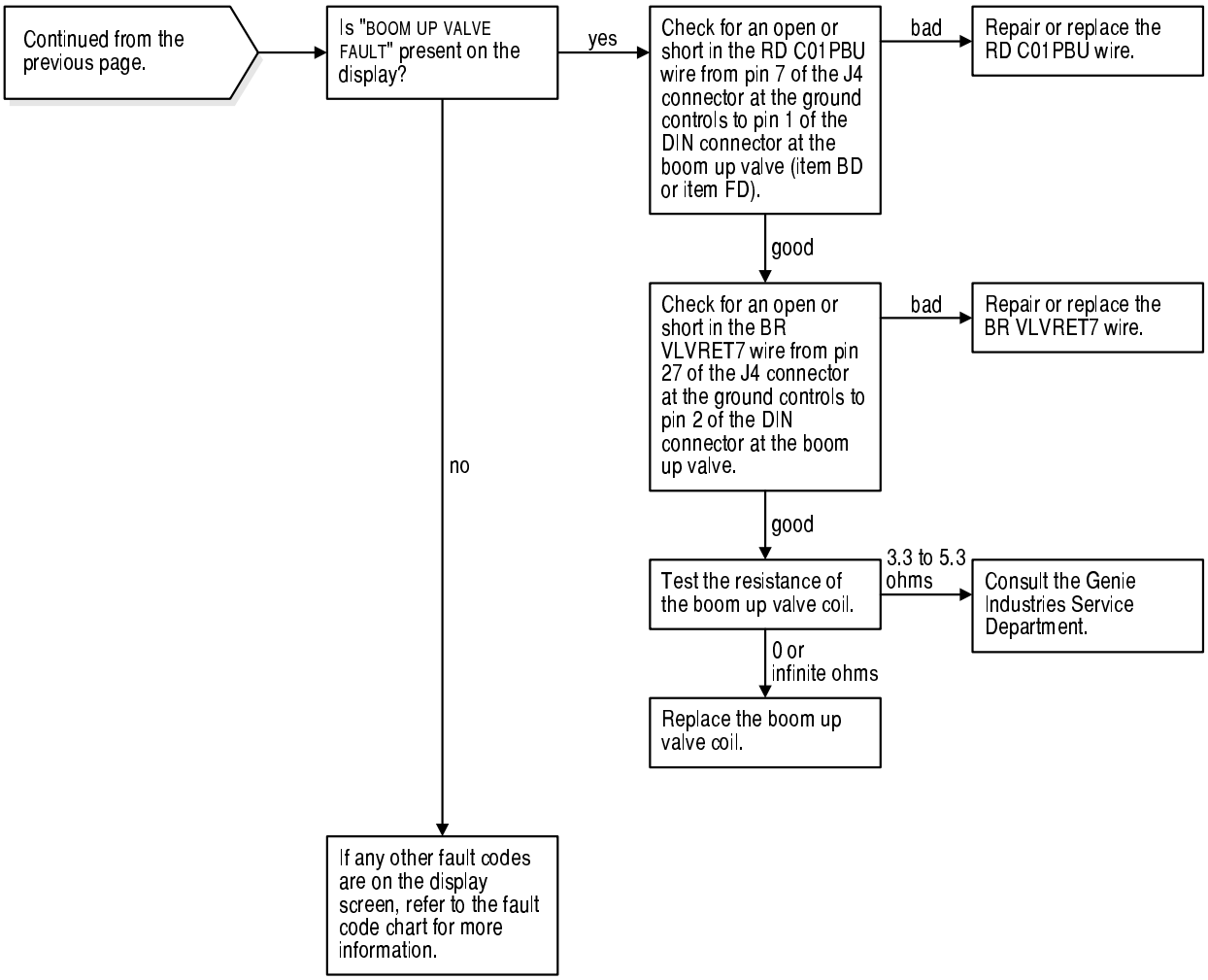

Continued from the previous page.
Is "BOOM UP VALVE FAULT" present on the display?
yes
no
Check for an open or short in the RD C01PBU wire from pin 7 of the J4 connector at the ground controls to pin 1 of the DIN connector at the boom up valve (item BD or item FD).
bad
Repair or replace the RD C01PBU wire.
good
Check for an open or short in the BR VLVRET7 wire from pin 27 of the J4 connector at the ground controls to pin 2 of the DIN connector at the boom up valve.
bad
Repair or replace the BR VLVRET7 wire.
good
Test the resistance of the boom up valve coil.
3.3 to 5.3 ohms
Consult the Genie Industries Service Department.
0 or infinite ohms
Replace the boom up valve coil.
If any other fault codes are on the display screen, refer to the fault code chart for more information.

CHART 13

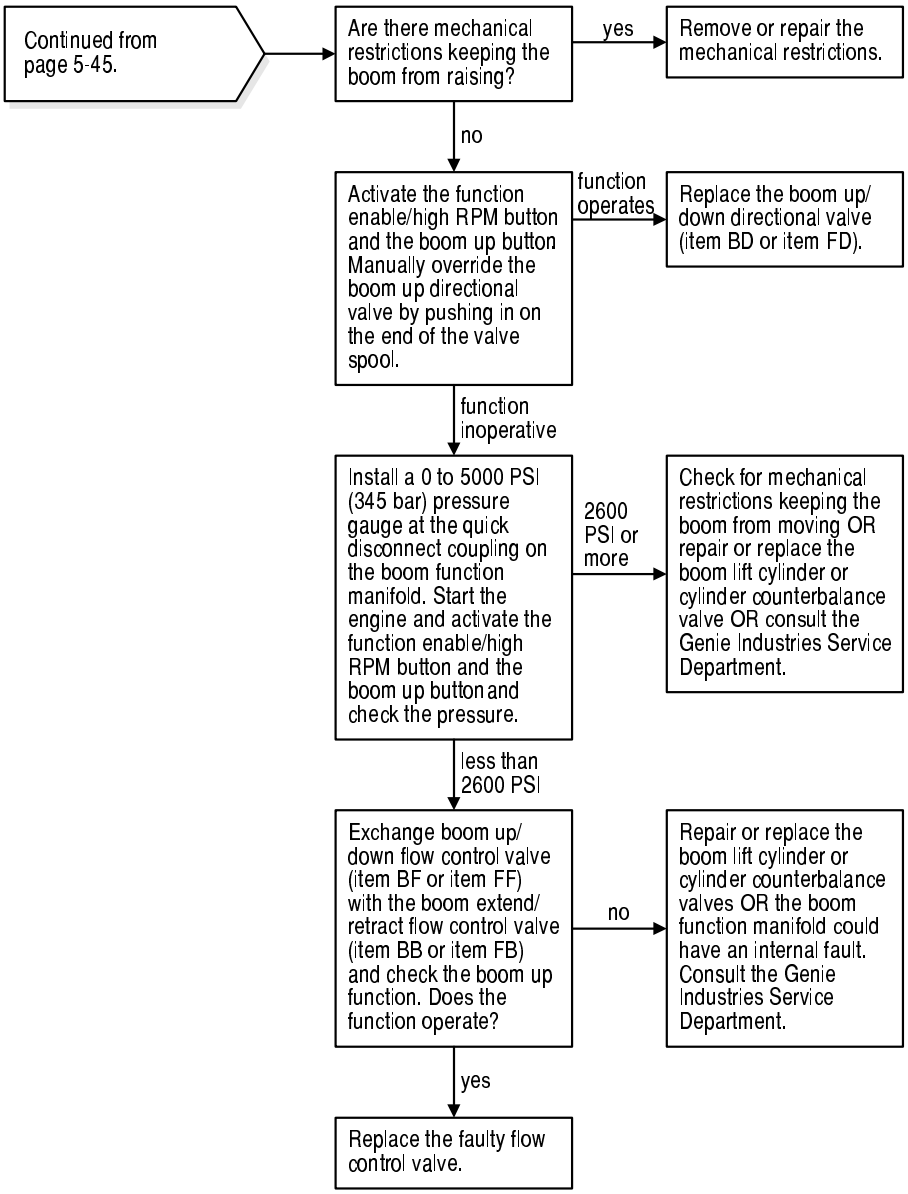

Continued from page 5-45.
Are there mechanical restrictions keeping the boom from raising?
yes
Remove or repair the mechanical restrictions.
no
Activate the function enable/high RPM button and the boom up button Manually override the boom up directional valve by pushing in on the end of the valve spool.
function operates
Replace the boom up/ down directional valve (item BD or item FD).
function inoperative
Install a 0 to 5000 PSI (345 bar) pressure gauge at the quick disconnect coupling on the boom function manifold. Start the engine and activate the function enable/high RPM button and the boom up button and check the pressure.
2600 PSI or more
Check for mechanical restrictions keeping the boom from moving OR repair or replace the boom lift cylinder or cylinder counterbalance valve OR consult the Genie Industries Service Department.
less than 2600 PSI
Exchange boom up/ down flow control valve (item BF or item FF) with the boom extend/ retract flow control valve (item BB or item FB) and check the boom up function. Does the function operate?
no
Repair or replace the boom lift cylinder or cylinder counterbalance valves OR the boom function manifold could have an internal fault. Consult the Genie Industries Service Department.
yes
Replace the faulty flow control valve.

Chart 14

Boom Down Function Inoperative

Be sure all other functions operate normally.

Be sure the axles are fully extended.

Be sure the platform is level to gravity within 7 degrees.

Be sure the batteries are fully charged and properly connected.

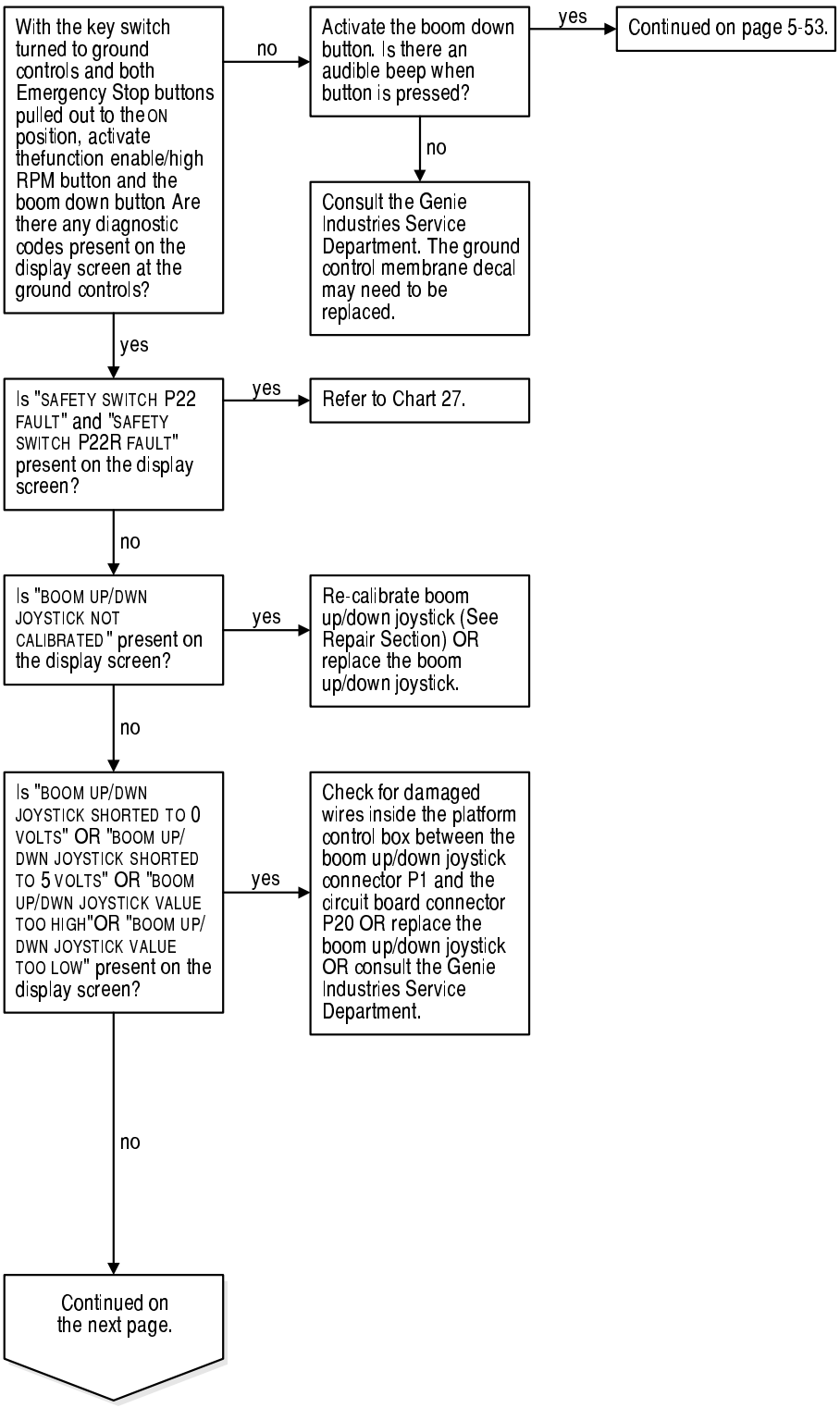

With the key switch turned to ground controls and both Emergency Stop buttons pulled out to the ON position, activate thefunction enable/high RPM button and the boom down button. Are there any diagnostic codes present on the display screen at the ground controls?
no
Activate the boom down button. Is there an audible beep when button is pressed?
yes
Continued on page 5-53.
no
Consult the Genie Industries Service Department. The ground control membrane decal may need to be replaced.
yes
Is "SAFETY SWITCH P22 FAULT" and "SAFETY SWITCH P22R FAULT" present on the display screen?
yes
Refer to Chart 27.
no
Is "BOOM UP/DWN JOYSTICK NOT CALIBRATED" present on the display screen?
yes
Re-calibrate boom up/down joystick (See Repair Section) OR replace the boom up/down joystick.
no
Is "BOOM UP/DWN JOYSTICK SHORTED TO 0 VOLTS" OR "BOOM UP/DWN JOYSTICK SHORTED TO 5 VOLTS" OR "BOOM UP/DWN JOYSTICK VALUE TOO HIGH"OR "BOOM UP/DWN JOYSTICK VALUE TOO LOW" present on the display screen?
yes
Check for damaged wires inside the platform control box between the boom up/down joystick connector P1 and the circuit board connector P20 OR replace the boom up/down joystick OR consult the Genie Industries Service Department.
no
Continued on the next page.

CHART 14

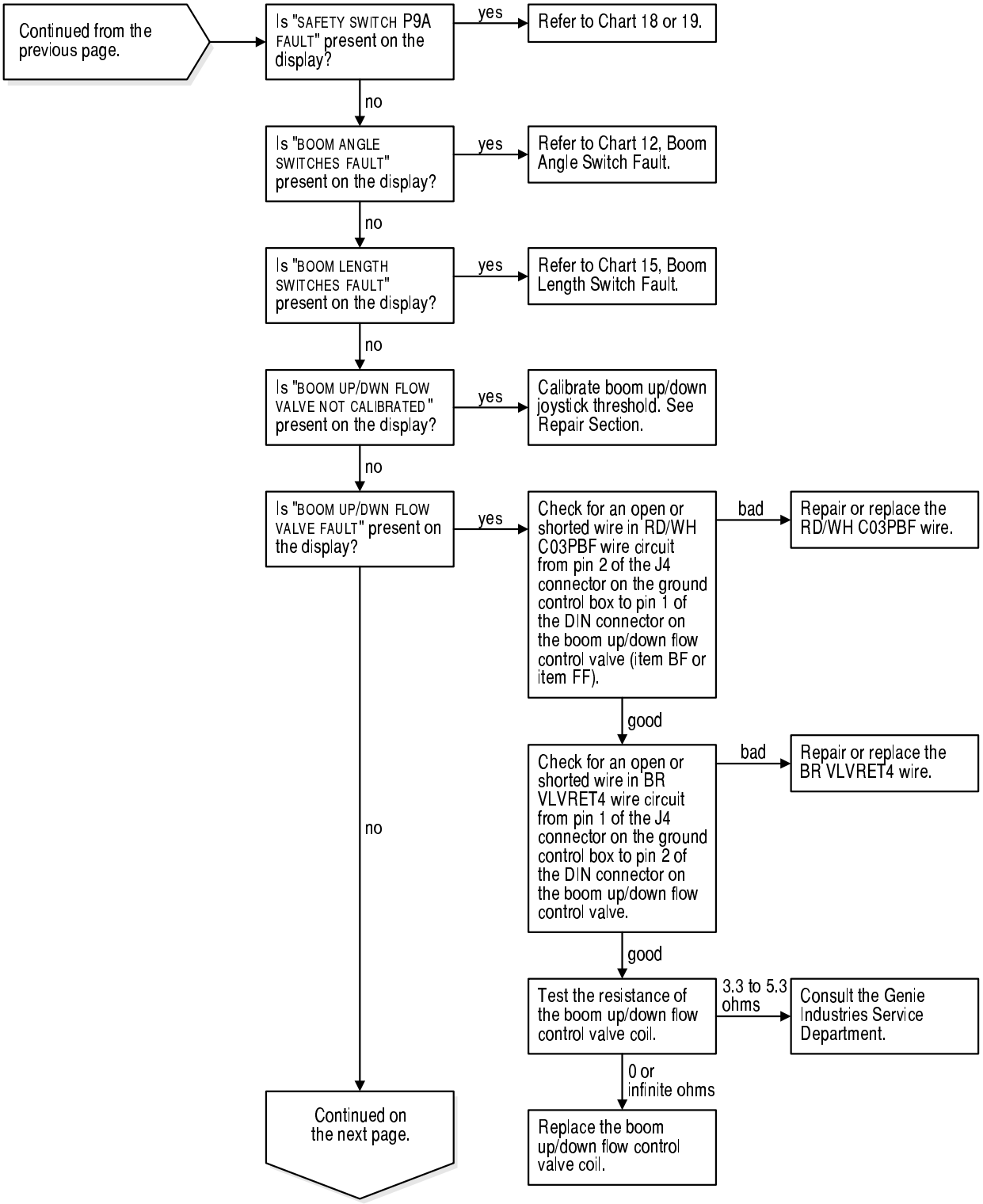

Continued from the previous page.
Is "SAFETY SWITCH P9A FAULT" present on the display?
yes
Refer to Chart 18 or 19.
no
Is "BOOM ANGLE SWITCHES FAULT" present on the display?
yes
Refer to Chart 12, Boom Angle Switch Fault.
no
Is "BOOM LENGTH SWITCHES FAULT" present on the display?
yes
Refer to Chart 15, Boom Length Switch Fault.
no
Is "BOOM UP/DWN FLOW VALVE NOT CALIBRATED" present on the display?
yes
Calibrate boom up/down joystick threshold. See Repair Section.
no
Is "BOOM UP/DWN FLOW VALVE FAULT" present on the display?
yes
Check for an open or shorted wire in RD/WH C03PBF wire circuit from pin 2 of the J4 connector on the ground control box to pin 1 of the DIN connector on the boom up/down flow control valve (item BF or item FF).
bad
Repair or replace the RD/WH C03PBF wire.
good
Check for an open or shorted wire in BR VLVRET4 wire circuit from pin 1 of the J4 connector on the ground control box to pin 2 of the DIN connector on the boom up/down flow control valve.
bad
Repair or replace the BR VLVRET4 wire.
good
Test the resistance of the boom up/down flow control valve coil.
3.3 to 5.3 ohms
Consult the Genie Industries Service Department.
0 or infinite ohms
Replace the boom up/down flow control valve coil.
no
Continued on the next page.

CHART 14

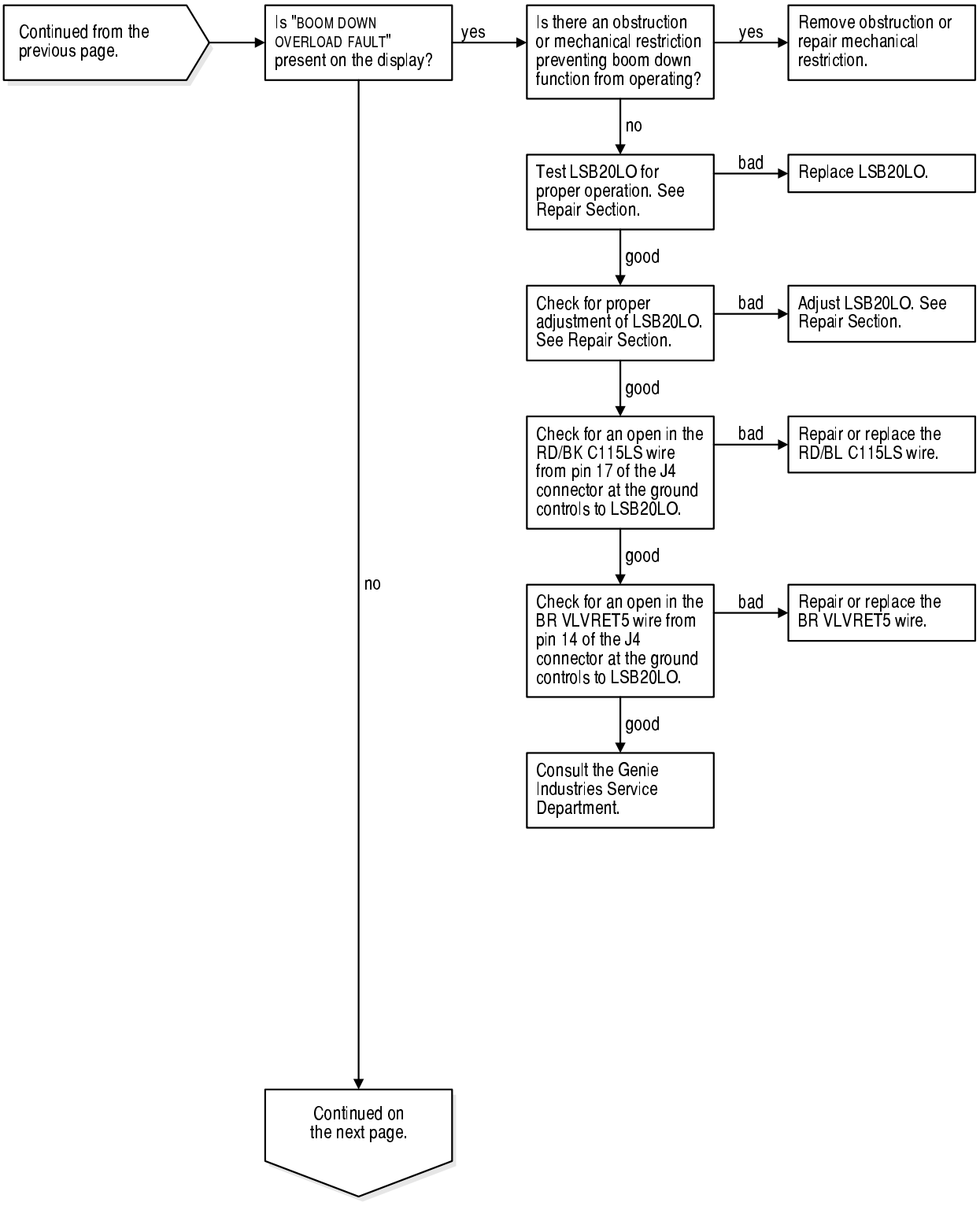

Continued from the previous page.
Is "BOOM DOWN OVERLOAD FAULT" present on the display?
yes
Is there an obstruction or mechanical restriction preventing boom down function from operating?
yes
Remove obstruction or repair mechanical restriction.
no
Test LSB20LO for proper operation. See Repair Section.
bad
Replace LSB20LO.
good
Check for proper adjustment of LSB20LO. See Repair Section.
bad
Adjust LSB20LO. See Repair Section.
good
Check for an open in the RD/BK C115LS wire from pin 17 of the J4 connector at the ground controls to LSB20LO.
bad
Repair or replace the RD/BL C115LS wire.
good
Check for an open in the BR VLVRET5 wire from pin 14 of the J4 connector at the ground controls to LSB20LO.
bad
Repair or replace the BR VLVRET5 wire.
good
Consult the Genie Industries Service Department.
no
Continued on the next page.

CHART 14

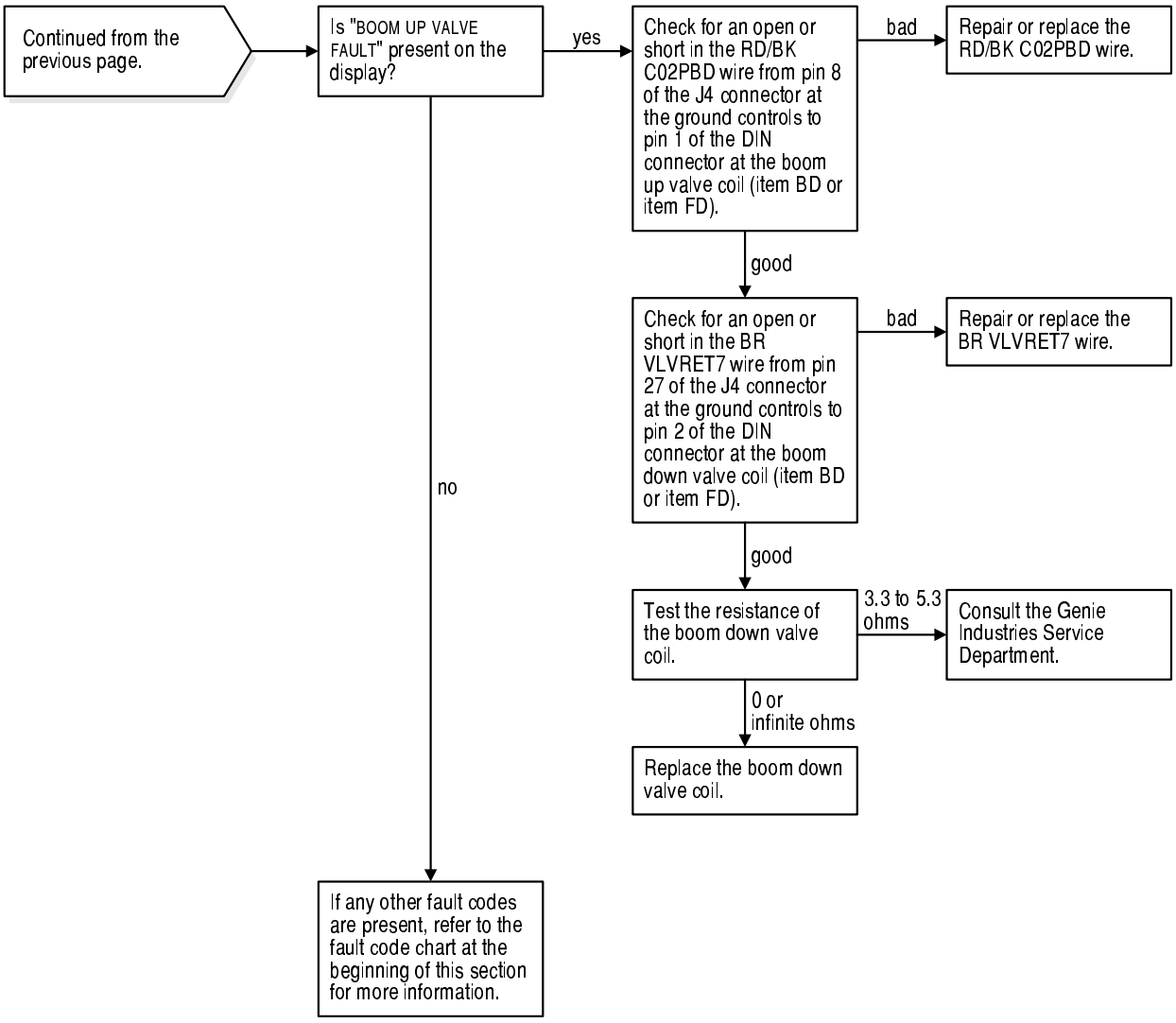

Continued from the previous page.
Is "BOOM UP VALVE FAULT" present on the display?
yes
no
Check for an open or short in the RD/BK C02PBD wire from pin 8 of the J4 connector at the ground controls to pin 1 of the DIN connector at the boom up valve coil (item BD or item FD).
bad
Repair or replace the RD/BK C02PBD wire.
good
Check for an open or short in the BR VLVRET7 wire from pin 27 of the J4 connector at the ground controls to pin 2 of the DIN connector at the boom down valve coil (item BD or item FD).
bad
Repair or replace the BR VLVRET7 wire.
good
Test the resistance of the boom down valve coil.
3.3 to 5.3 ohms
Consult the Genie Industries Service Department.
0 or infinite ohms
Replace the boom down valve coil.
If any other fault codes are present, refer to the fault code chart at the beginning of this section for more information.

CHART 14

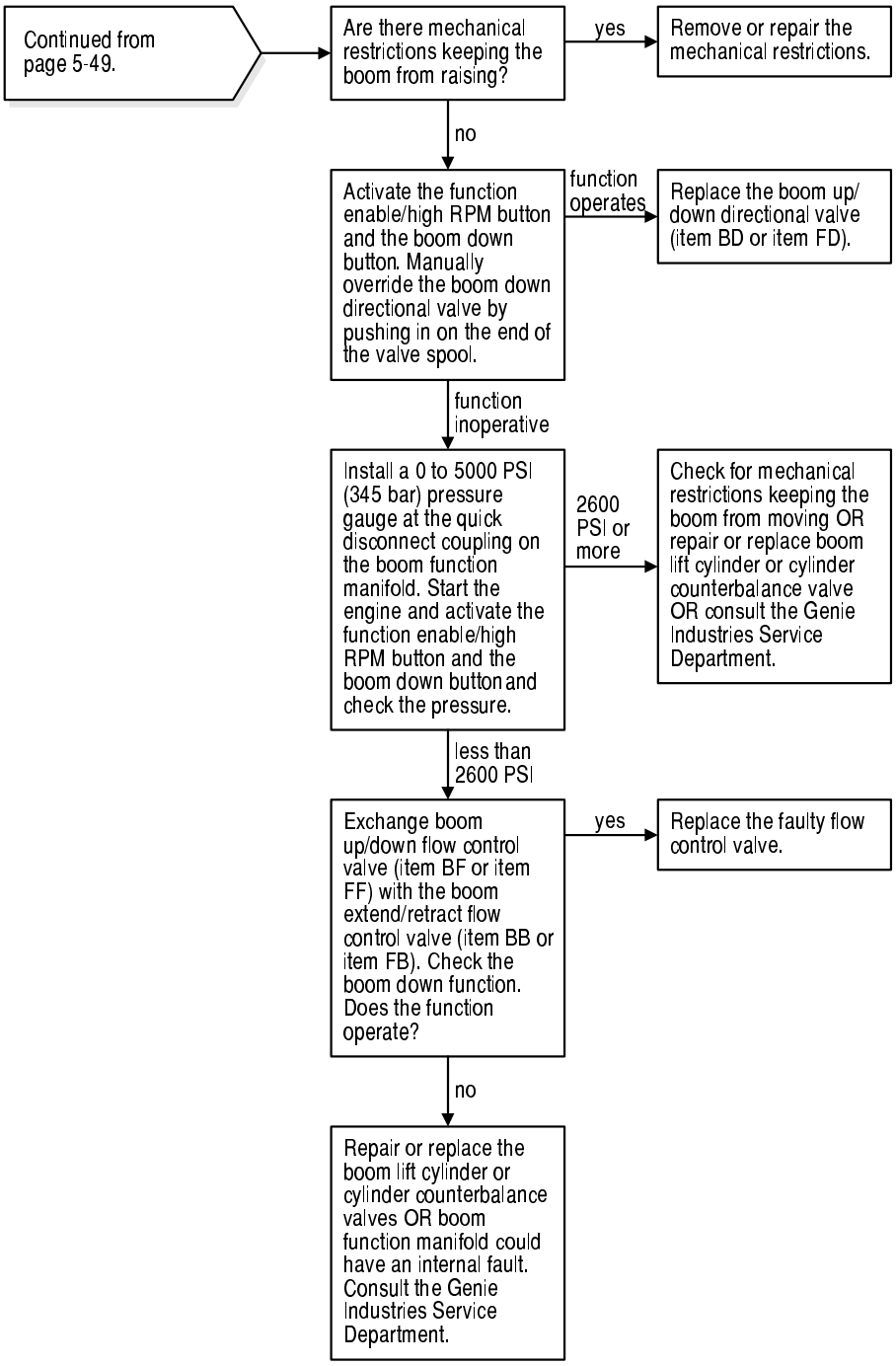

Continued from page 5-49.
Are there mechanical restrictions keeping the boom from raising?
yes
Remove or repair the mechanical restrictions.
no
Activate the function enable/high RPM button and the boom down button. Manually override the boom down directional valve by pushing in on the end of the valve spool.
function operates
Replace the boom up/down directional valve (item BD or item FD).
function inoperative
Install a 0 to 5000 PSI (345 bar) pressure gauge at the quick disconnect coupling on the boom function manifold. Start the engine and activate the function enable/high RPM button and the boom down button and check the pressure.
2600 PSI or more
Check for mechanical restrictions keeping the boom from moving OR repair or replace boom lift cylinder or cylinder counterbalance valve OR consult the Genie Industries Service Department.
less than 2600 PSI
Exchange boom up/down flow control valve (item BF or item FF) with the boom extend/retract flow control valve (item BB or item FB). Check the boom down function. Does the function operate?
yes
Replace the faulty flow control valve.
no
Repair or replace the boom lift cylinder or cylinder counterbalance valves OR boom function manifold could have an internal fault. Consult the Genie Industries Service Department.

Chart 15

Boom Length Switch Fault

Be sure all other functions operate normally.

Be sure the boom length limit switches are properly connected to the correct wiring harness leads.

Be sure the batteries are fully charged and properly connected.

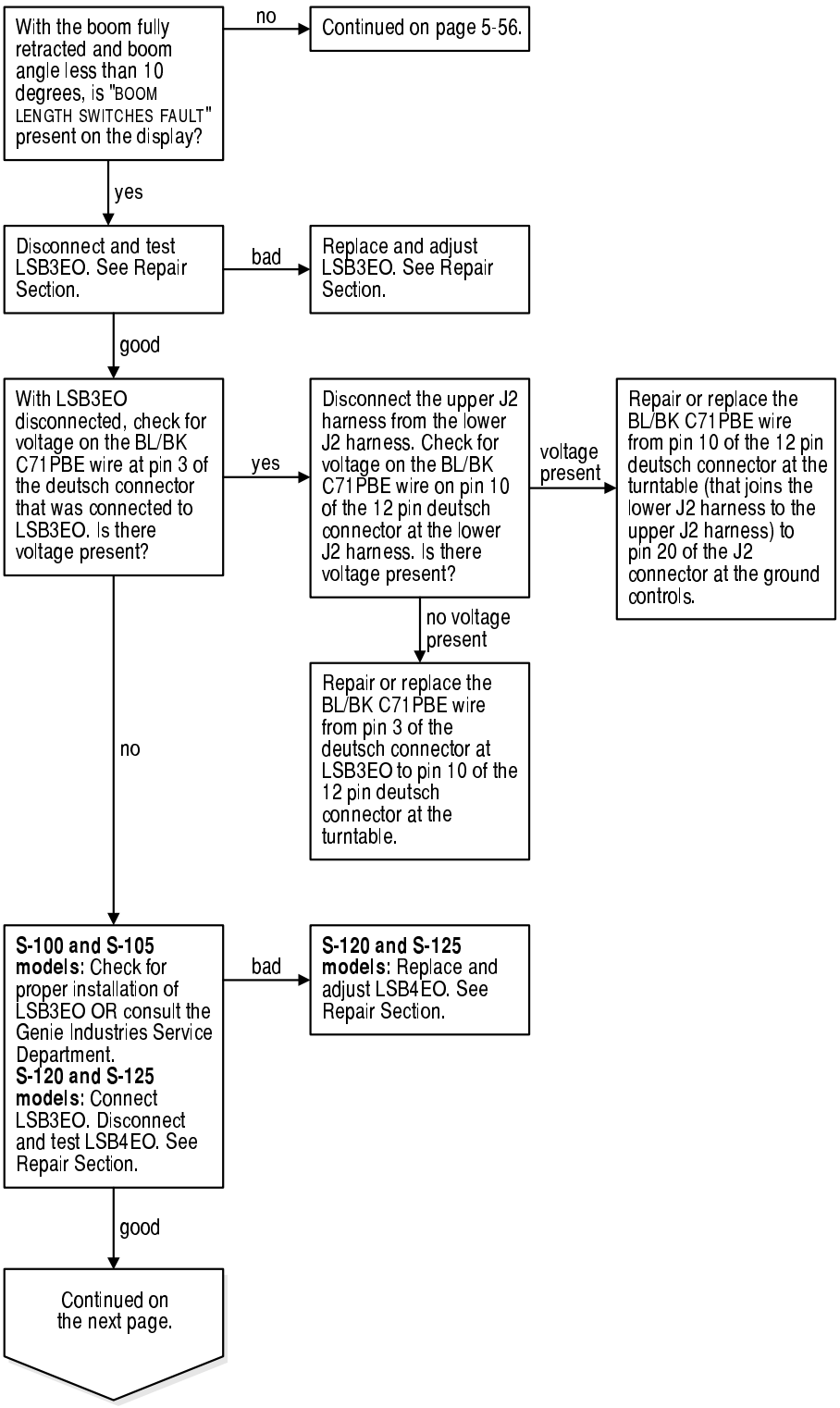

With the boom fully retracted and boom angle less than 10 degrees, is "BOOM LENGTH SWITCHES FAULT" present on the display?
no
Continued on page 5-56.
yes
Disconnect and test LSB3EO. See Repair Section.
bad
Replace and adjust LSB3EO. See Repair Section.
good
With LSB3EO disconnected, check for voltage on the BL/BK C71PBE wire at pin 3 of the deutsch connector that was connected to LSB3EO. Is there voltage present?
yes
Disconnect the upper J2 harness from the lower J2 harness. Check for voltage on the BL/BK C71PBE wire on pin 10 of the 12 pin deutsch connector at the lower J2 harness. Is there voltage present?
voltage present
Repair or replace the BL/BK C71PBE wire from pin 10 of the 12 pin deutsch connector at the turntable (that joins the lower J2 harness to the upper J2 harness) to pin 20 of the J2 connector at the ground controls.
no voltage present
Repair or replace the BL/BK C71PBE wire from pin 3 of the deutsch connector at LSB3EO to pin 10 of the 12 pin deutsch connector at the turntable.
no
S-100 and S-105 models: Check for proper installation of LSB3EO OR consult the Genie Industries Service Department.
S-120 and S-125 models: Connect LSB3EO. Disconnect and test LSB4EO. See Repair Section.
bad
S-120 and S-125 models: Replace and adjust LSB4EO. See Repair Section.
good
Continued on the next page.

CHART 15

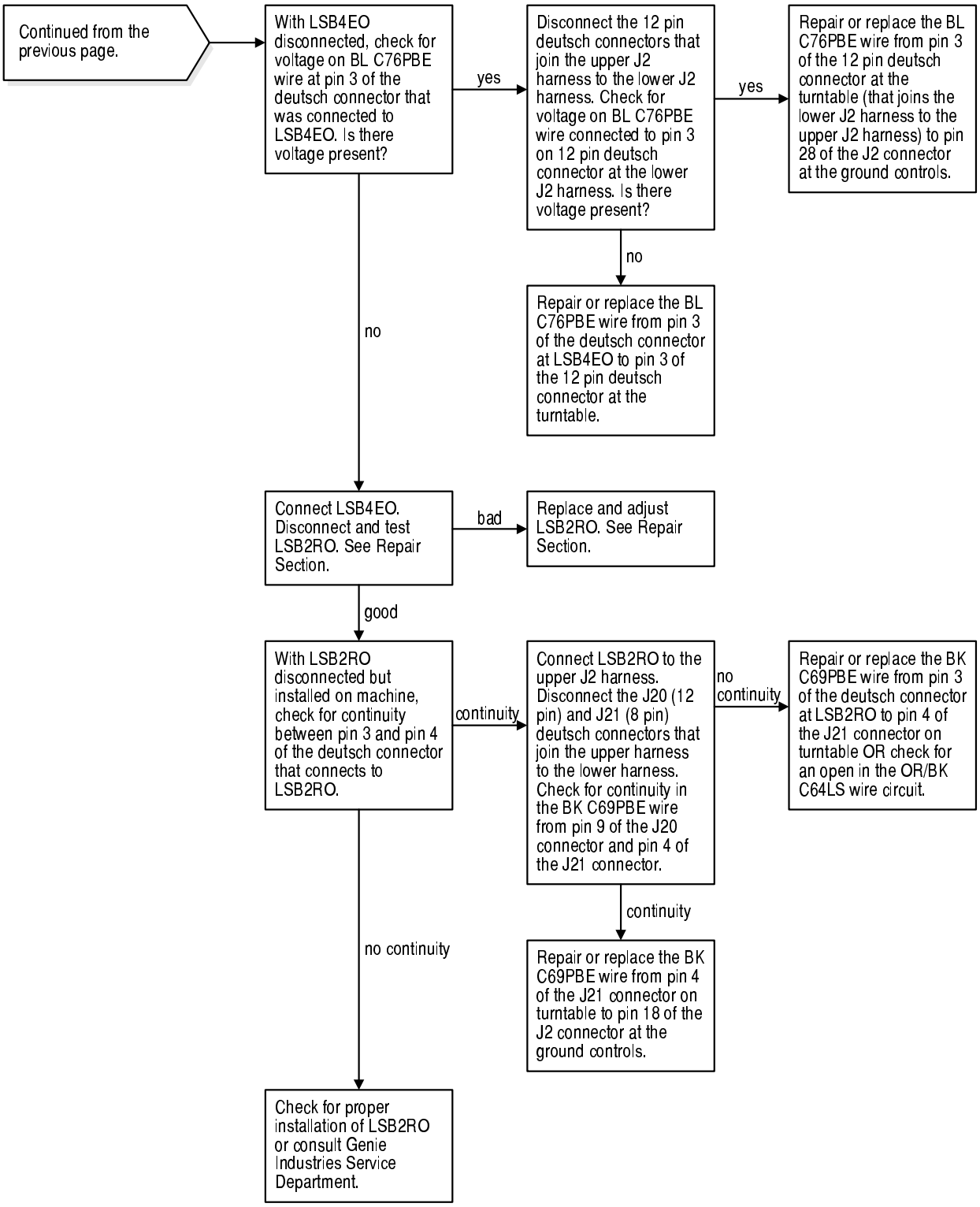

Continued from the previous page.
With LSB4EO disconnected, check for voltage on BL C76PBE wire at pin 3 of the deutsch connector that was connected to LSB4EO. Is there voltage present?
yes
Disconnect the 12 pin deutsch connectors that join the upper J2 harness to the lower J2 harness. Check for voltage on BL C76PBE wire connected to pin 3 on 12 pin deutsch connector at the lower J2 harness. Is there voltage present?
yes
Repair or replace the BL C76PBE wire from pin 3 of the 12 pin deutsch connector at the turntable (that joins the lower J2 harness to the upper J2 harness) to pin 28 of the J2 connector at the ground controls.
no
Repair or replace the BL C76PBE wire from pin 3 of the deutsch connector at LSB4EO to pin 3 of the 12 pin deutsch connector at the turntable.
no
Connect LSB4EO. Disconnect and test LSB2RO. See Repair Section.
bad
Replace and adjust LSB2RO. See Repair Section.
good
With LSB2RO disconnected but installed on machine, check for continuity between pin 3 and pin 4 of the deutsch connector that connects to LSB2RO.
continuity
Connect LSB2RO to the upper J2 harness. Disconnect the J20 (12 pin) and J21 (8 pin) deutsch connectors that join the upper harness to the lower harness. Check for continuity in the BK C69PBE wire from pin 9 of the J20 connector and pin 4 of the J21 connector.
no continuity
Repair or replace the BK C69PBE wire from pin 3 of the deutsch connector at LSB2RO to pin 4 of the J21 connector on turntable OR check for an open in the OR/BK C64LS wire circuit.
continuity
Repair or replace the BK C69PBE wire from pin 4 of the J21 connector on turntable to pin 18 of the J2 connector at the ground controls.
no continuity
Check for proper installation of LSB2RO or consult Genie Industries Service Department.

CHART 15

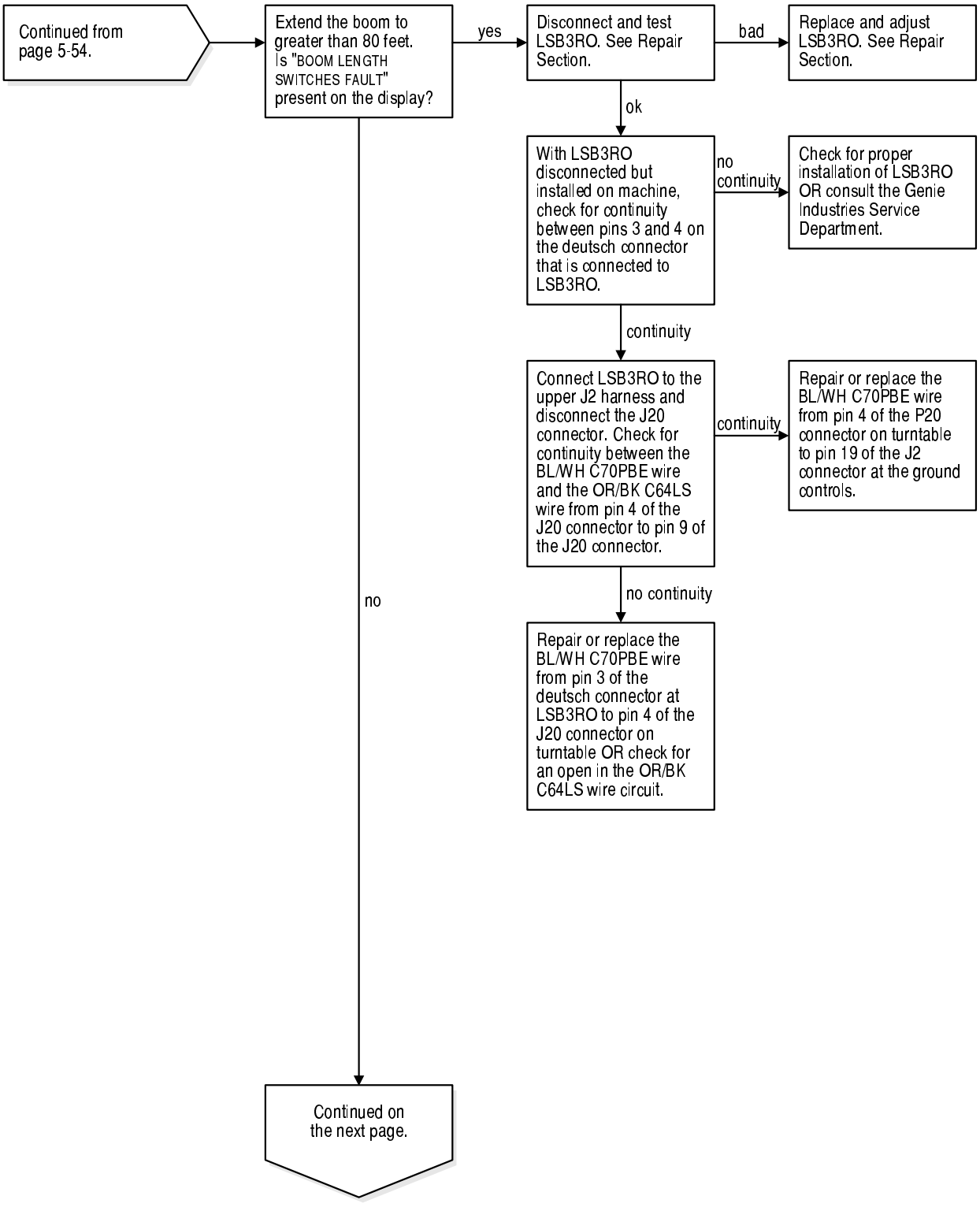

Continued from page 5-54.
Extend the boom to greater than 80 feet. Is "BOOM LENGTH SWITCHES FAULT" present on the display?
yes
Disconnect and test LSB3RO. See Repair Section.
bad
Replace and adjust LSB3RO. See Repair Section.
ok
With LSB3RO disconnected but installed on machine, check for continuity between pins 3 and 4 on the deutsch connector that is connected to LSB3RO.
no continuity
Check for proper installation of LSB3RO OR consult the Genie Industries Service Department.
continuity
Connect LSB3RO to the upper J2 harness and disconnect the J20 connector. Check for continuity between the BL/WH C70PBE wire and the OR/BK C64LS wire from pin 4 of the J20 connector to pin 9 of the J20 connector.
continuity
Repair or replace the BL/WH C70PBE wire from pin 4 of the P20 connector on turntable to pin 19 of the J2 connector at the ground controls.
no continuity
Repair or replace the BL/WH C70PBE wire from pin 3 of the deutsch connector at LSB3RO to pin 4 of the J20 connector on turntable OR check for an open in the OR/BK C64LS wire circuit.
no
Continued on the next page.

CHART 15

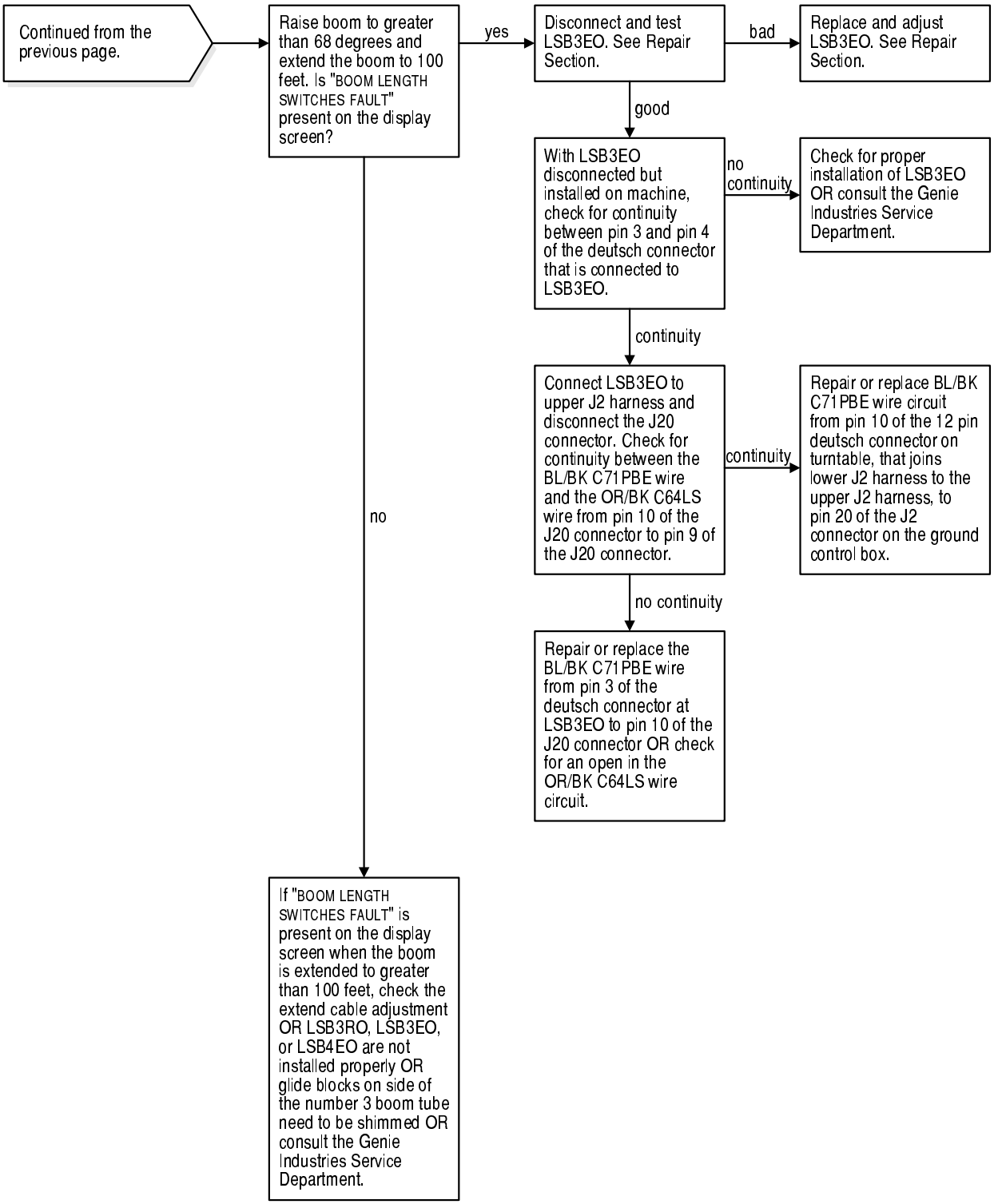

Continued from the previous page.
Raise boom to greater than 68 degrees and extend the boom to 100 feet. Is "BOOM LENGTH SWITCHES FAULT" present on the display screen?
yes
Disconnect and test LSB3EO. See Repair Section.
bad
Replace and adjust LSB3EO. See Repair Section.
good
With LSB3EO disconnected but installed on machine, check for continuity between pin 3 and pin 4 of the deutsch connector that is connected to LSB3EO.
no continuity
Check for proper installation of LSB3EO OR consult the Genie Industries Service Department.
continuity
Connect LSB3EO to upper J2 harness and disconnect the J20 connector. Check for continuity between the BL/BK C71PBE wire and the OR/BK C64LS wire from pin 10 of the J20 connector to pin 9 of the J20 connector.
continuity
Repair or replace BL/BK C71PBE wire circuit from pin 10 of the 12 pin deutsch connector on turntable, that joins lower J2 harness to the upper J2 harness, to pin 20 of the J2 connector on the ground control box.
no continuity
Repair or replace the BL/BK C71PBE wire from pin 3 of the deutsch connector at LSB3EO to pin 10 of the J20 connector OR check for an open in the OR/BK C64LS wire circuit.
no
If "BOOM LENGTH SWITCHES FAULT" is present on the display screen when the boom is extended to greater than 100 feet, check the extend cable adjustment OR LSB3RO, LSB3EO, or LSB4EO are not installed properly OR glide blocks on side of the number 3 boom tube need to be shimmed OR consult the Genie Industries Service Department.

Chart 16

Boom Extend Function Inoperative

Be sure all other functions operate normally.

Be sure the axles are fully extended.

Be sure the boom is within the operation envelope zone.

Be sure the batteries are fully charged and properly connected.

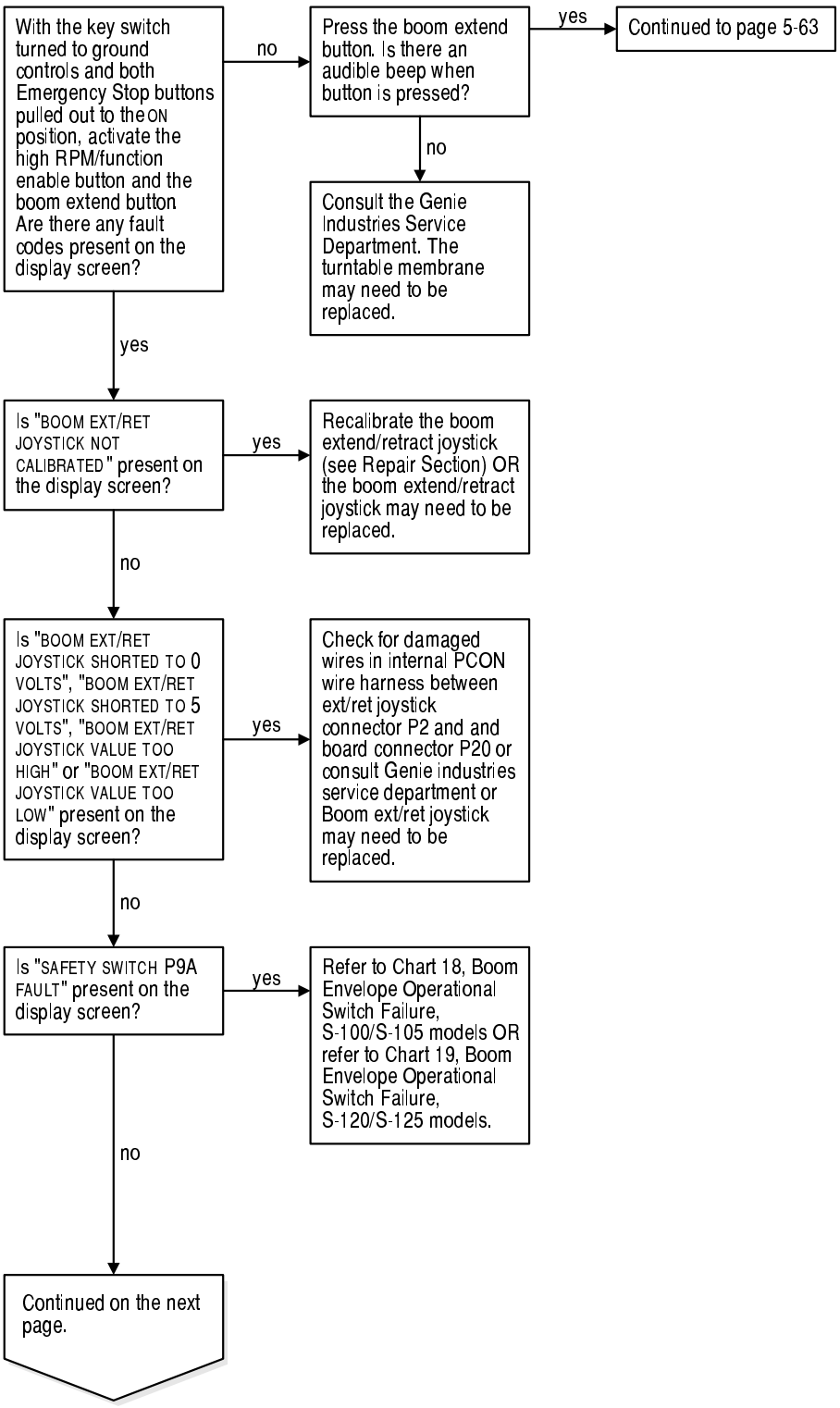

With the key switch turned to ground controls and both Emergency Stop buttons pulled out to the ON position, activate the high RPM/function enable button and the boom extend button Are there any fault codes present on the display screen?
no
Press the boom extend button. Is there an audible beep when button is pressed?
yes
Continued to page 5-63
no
Consult the Genie Industries Service Department. The turntable membrane may need to be replaced.
yes
Is "BOOM EXT/RET JOYSTICK NOT CALIBRATED" present on the display screen?
yes
Recalibrate the boom extend/retract joystick (see Repair Section) OR the boom extend/retract joystick may need to be replaced.
no
Is "BOOM EXT/RET JOYSTICK SHORTED TO 0 VOLTS", "BOOM EXT/RET JOYSTICK SHORTED TO 5 VOLTS", "BOOM EXT/RET JOYSTICK VALUE TOO HIGH" or "BOOM EXT/RET JOYSTICK VALUE TOO LOW" present on the display screen?
yes
Check for damaged wires in internal PCON wire harness between ext/ret joystick connector P2 and and board connector P20 or consult Genie industries service department or Boom ext/ret joystick may need to be replaced.
no
Is "SAFETY SWITCH P9A FAULT" present on the display screen?
yes
Refer to Chart 18, Boom Envelope Operational Switch Failure, S-100/S-105 models OR refer to Chart 19, Boom Envelope Operational Switch Failure, S-120/S-125 models.
no
Continued on the next page.

CHART 16

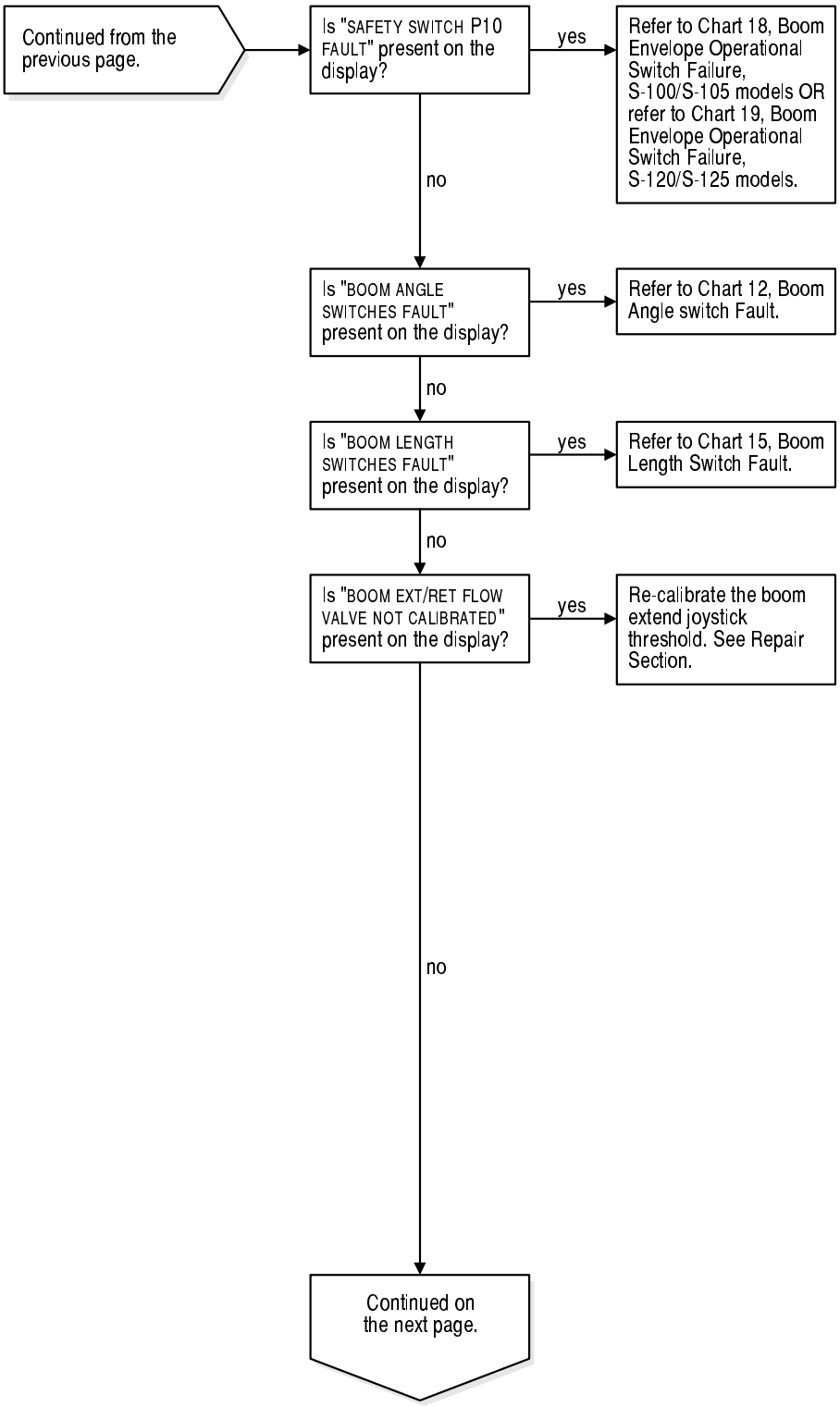

Continued from the previous page.
Is "SAFETY SWITCH P10 FAULT" present on the display?
yes
Refer to Chart 18, Boom Envelope Operational Switch Failure, S-100/S-105 models OR refer to Chart 19, Boom Envelope Operational Switch Failure, S-120/S-125 models.
no
Is "BOOM ANGLE SWITCHES FAULT" present on the display?
yes
Refer to Chart 12, Boom Angle switch Fault.
no
Is "BOOM LENGTH SWITCHES FAULT" present on the display?
yes
Refer to Chart 15, Boom Length Switch Fault.
no
Is "BOOM EXT/RET FLOW VALVE NOT CALIBRATED" present on the display?
yes
Re-calibrate the boom extend joystick threshold. See Repair Section.
no
Continued on the next page.

CHART 16

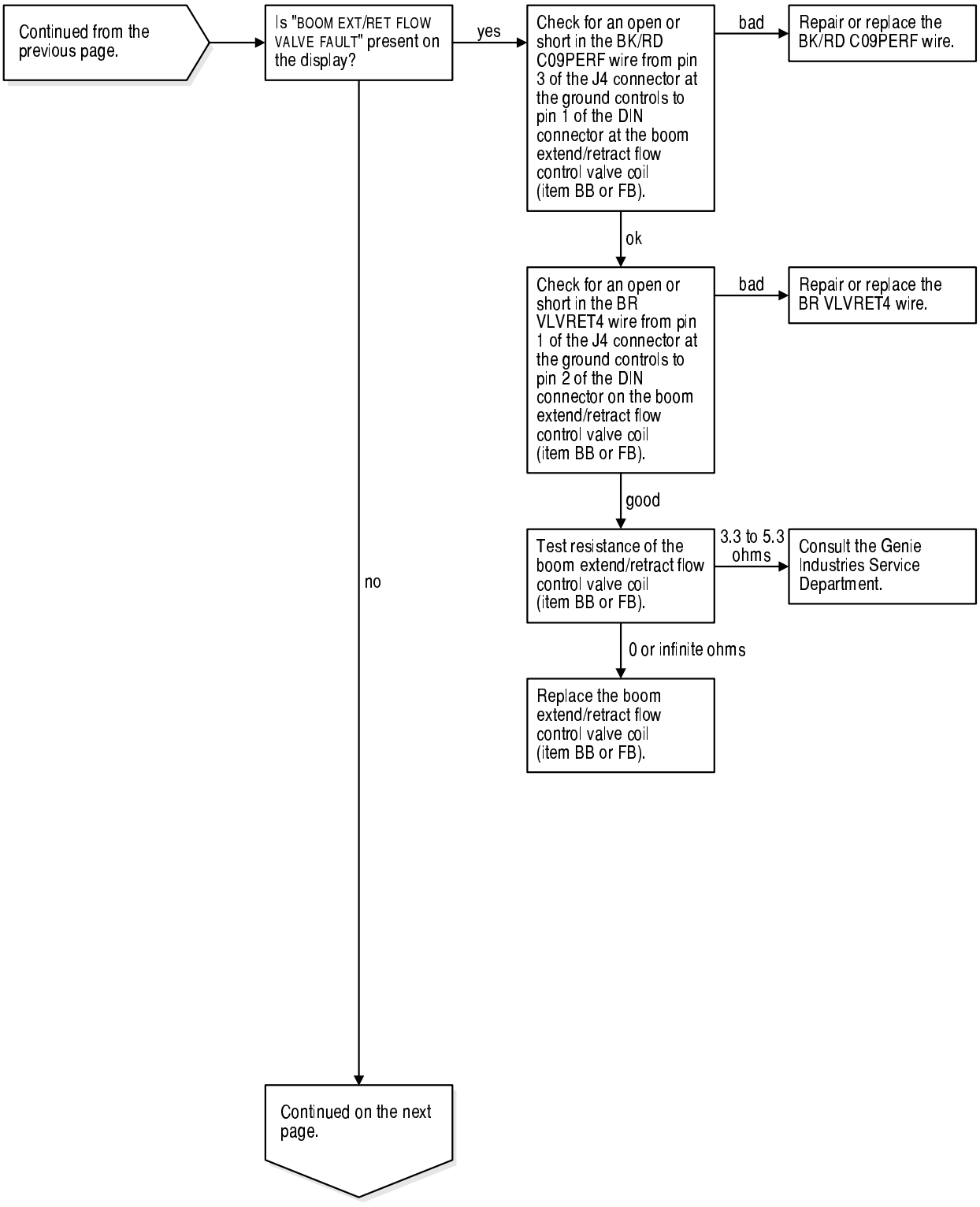

Continued from the previous page.
Is "BOOM EXT/RET FLOW VALVE FAULT" present on the display?
yes
no
Check for an open or short in the BK/RD C09PERF wire from pin 3 of the J4 connector at the ground controls to pin 1 of the DIN connector at the boom extend/retract flow control valve coil (item BB or FB).
bad
Repair or replace the BK/RD C09PERF wire.
ok
Check for an open or short in the BR VLVRET4 wire from pin 1 of the J4 connector at the ground controls to pin 2 of the DIN connector on the boom extend/retract flow control valve coil (item BB or FB).
bad
Repair or replace the BR VLVRET4 wire.
good
Test resistance of the boom extend/retract flow control valve coil (item BB or FB).
3.3 to 5.3 ohms
Consult the Genie Industries Service Department.
0 or infinite ohms
Replace the boom extend/retract flow control valve coil (item BB or FB).
Continued on the next page.

CHART 16

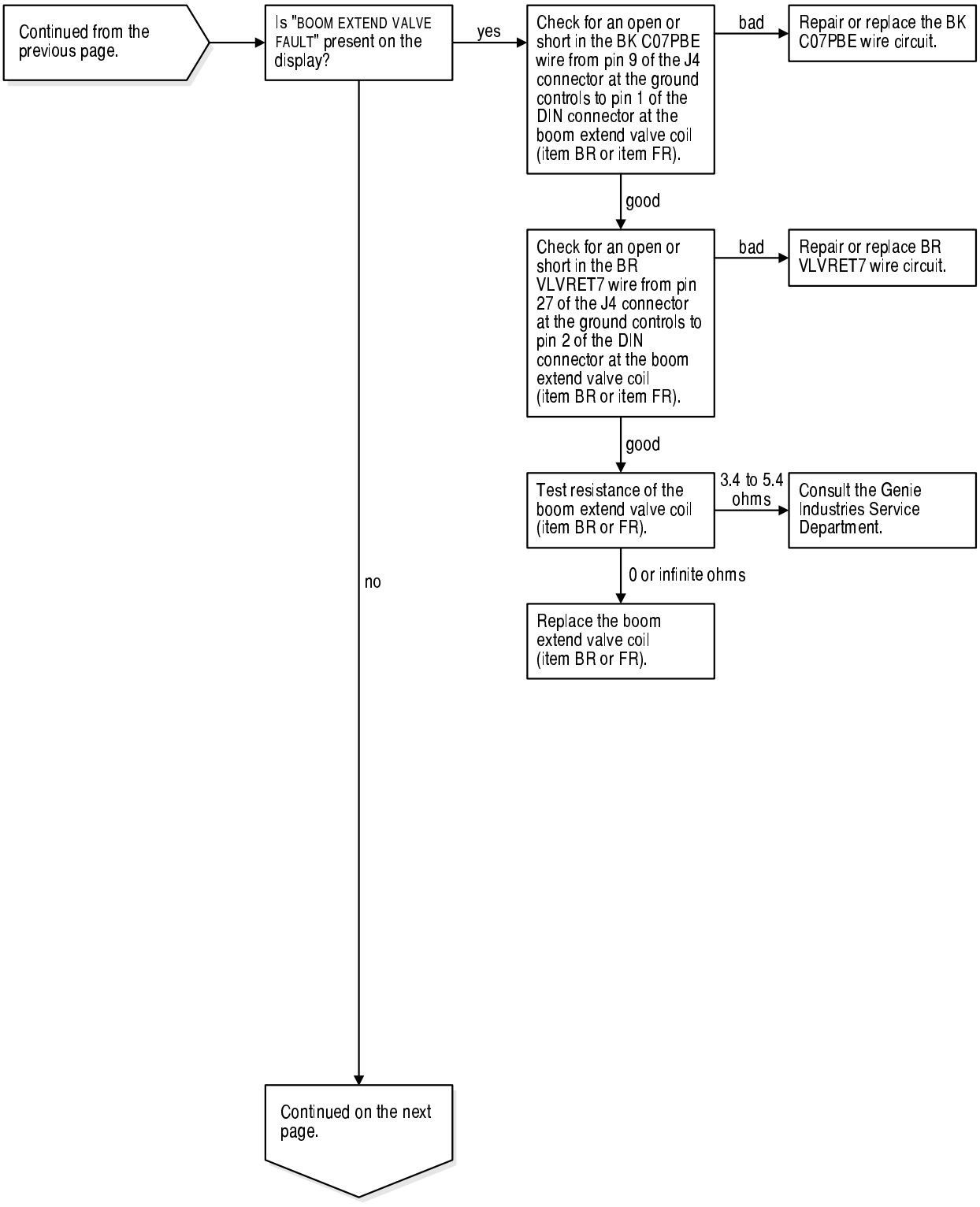

Continued from the previous page.
Is "BOOM EXTEND VALVE FAULT" present on the display?
yes
no
Check for an open or short in the BK C07PBE wire from pin 9 of the J4 connector at the ground controls to pin 1 of the DIN connector at the boom extend valve coil (item BR or item FR).
bad
Repair or replace the BK C07PBE wire circuit.
good
Check for an open or short in the BR VLVRET7 wire from pin 27 of the J4 connector at the ground controls to pin 2 of the DIN connector at the boom extend valve coil (item BR or item FR).
bad
Repair or replace BR VLVRET7 wire circuit.
good
Test resistance of the boom extend valve coil (item BR or FR).
3.4 to 5.4 ohms
Consult the Genie Industries Service Department.
0 or infinite ohms
Replace the boom extend valve coil (item BR or FR).
Continued on the next page.

CHART 16

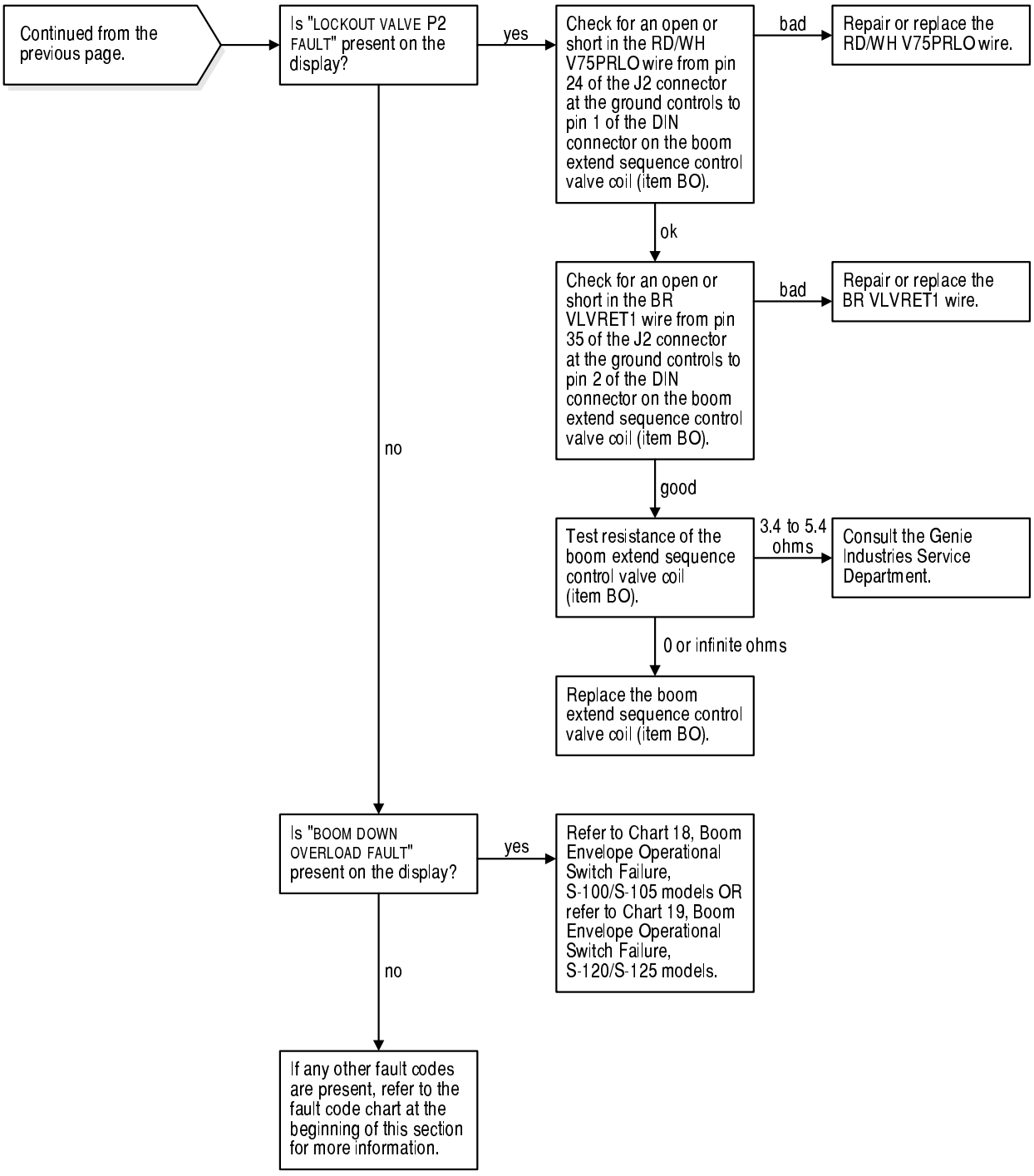

Continued from the previous page.
Is "LOCKOUT VALVE P2 FAULT" present on the display?
yes
Check for an open or short in the RD/WH V75PRLO wire from pin 24 of the J2 connector at the ground controls to pin 1 of the DIN connector on the boom extend sequence control valve coil (item BO).
bad
Repair or replace the RD/WH V75PRLO wire.
ok
Check for an open or short in the BR VLVRET1 wire from pin 35 of the J2 connector at the ground controls to pin 2 of the DIN connector on the boom extend sequence control valve coil (item BO).
bad
Repair or replace the BR VLVRET1 wire.
good
Test resistance of the boom extend sequence control valve coil (item BO).
3.4 to 5.4 ohms
Consult the Genie Industries Service Department.
0 or infinite ohms
Replace the boom extend sequence control valve coil (item BO).
no
Is "BOOM DOWN OVERLOAD FAULT" present on the display?
yes
Refer to Chart 18, Boom Envelope Operational Switch Failure, S-100/S-105 models OR refer to Chart 19, Boom Envelope Operational Switch Failure, S-120/S-125 models.
no
If any other fault codes are present, refer to the fault code chart at the beginning of this section for more information.

CHART 16

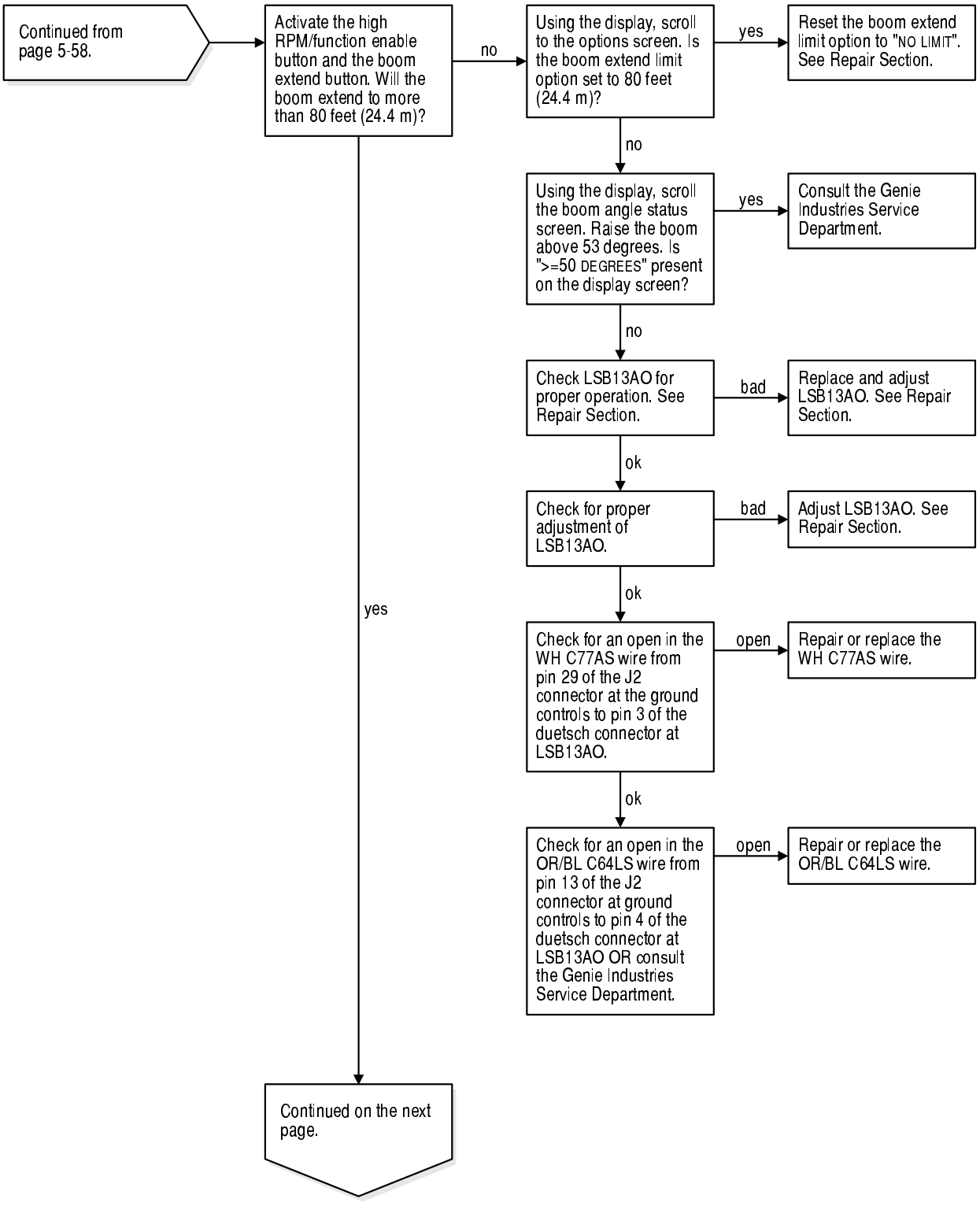

Continued from page 5-58.
Activate the high RPM/function enable button and the boom extend button. Will the boom extend to more than 80 feet (24.4 m)?
no
Using the display, scroll to the options screen. Is the boom extend limit option set to 80 feet (24.4 m)?
yes
Reset the boom extend limit option to "NO LIMIT". See Repair Section.
no
Using the display, scroll the boom angle status screen. Raise the boom above 53 degrees. Is ">=50 DEGREES" present on the display screen?
yes
Consult the Genie Industries Service Department.
no
Check LSB13AO for proper operation. See Repair Section.
bad
Replace and adjust LSB13AO. See Repair Section.
ok
Check for proper adjustment of LSB13AO.
bad
Adjust LSB13AO. See Repair Section.
ok
Check for an open in the WH C77AS wire from pin 29 of the J2 connector at the ground controls to pin 3 of the duetsch connector at LSB13AO.
open
Repair or replace the WH C77AS wire.
ok
Check for an open in the OR/BL C64LS wire from pin 13 of the J2 connector at ground controls to pin 4 of the duetsch connector at LSB13AO OR consult the Genie Industries Service Department.
open
Repair or replace the OR/BL C64LS wire.
yes
Continued on the next page.

CHART 16

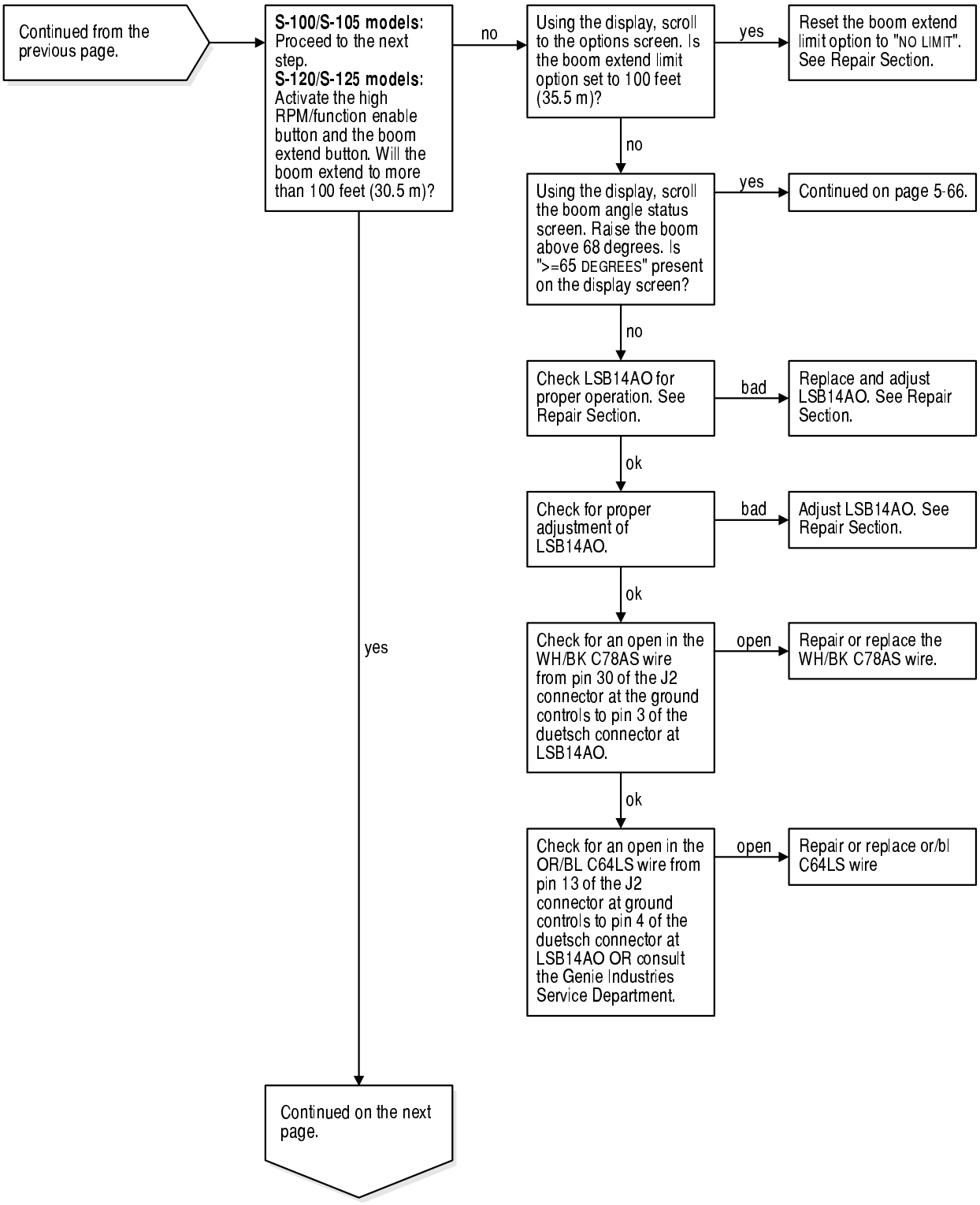

Continued from the previous page.
S-100/S-105 models: Proceed to the next step.
S-120/S-125 models: Activate the high RPM/function enable button and the boom extend button. Will the boom extend to more than 100 feet (30.5 m)?
no
Using the display, scroll to the options screen. Is the boom extend limit option set to 100 feet (35.5 m)?
yes
Reset the boom extend limit option to "NO LIMIT". See Repair Section.
no
Using the display, scroll the boom angle status screen. Raise the boom above 68 degrees. Is ">=65 DEGREES" present on the display screen?
yes
Continued on page 5-66.
no
Check LSB14AO for proper operation. See Repair Section.
bad
Replace and adjust LSB14AO. See Repair Section.
ok
Check for proper adjustment of LSB14AO.
bad
Adjust LSB14AO. See Repair Section.
ok
Check for an open in the WH/BK C78AS wire from pin 30 of the J2 connector at the ground controls to pin 3 of the duetsch connector at LSB14AO.
open
Repair or replace the WH/BK C78AS wire.
ok
Check for an open in the OR/BL C64LS wire from pin 13 of the J2 connector at ground controls to pin 4 of the duetsch connector at LSB14AO OR consult the Genie Industries Service Department.
open
Repair or replace or/bl C64LS wire
yes
Continued on the next page.

CHART 16

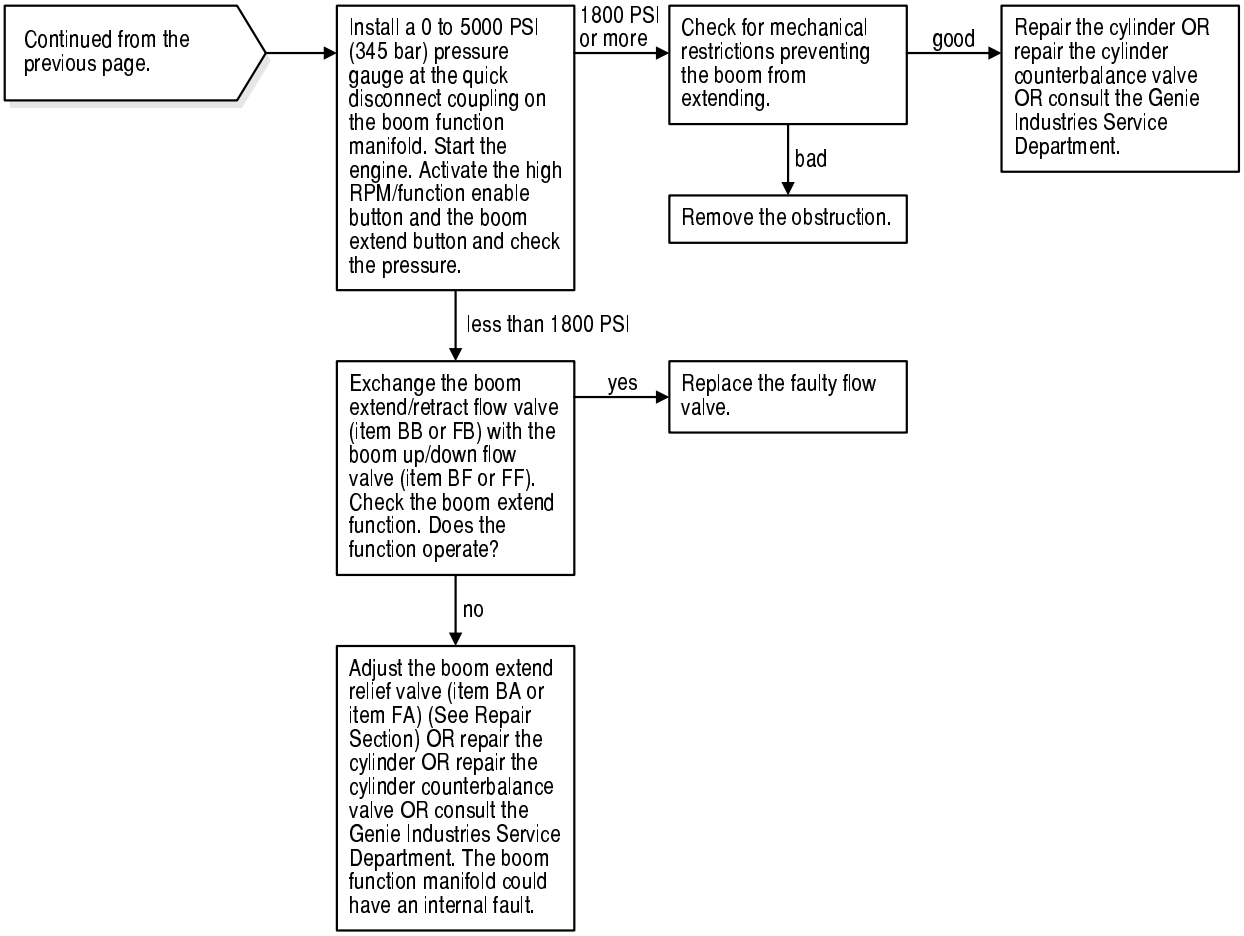

Continued from the previous page.
Install a 0 to 5000 PSI (345 bar) pressure gauge at the quick disconnect coupling on the boom function manifold. Start the engine. Activate the high RPM/function enable button and the boom extend button and check the pressure.
1800 PSI or more
Check for mechanical restrictions preventing the boom from extending.
good
Repair the cylinder OR repair the cylinder counterbalance valve OR consult the Genie Industries Service Department.
bad
Remove the obstruction.
less than 1800 PSI
Exchange the boom extend/retract flow valve (item BB or FB) with the boom up/down flow valve (item BF or FF). Check the boom extend function. Does the function operate?
yes
Replace the faulty flow valve.
no
Adjust the boom extend relief valve (item BA or item FA) (See Repair Section) OR repair the cylinder OR repair the cylinder counterbalance valve OR consult the Genie Industries Service Department. The boom function manifold could have an internal fault.

CHART 16

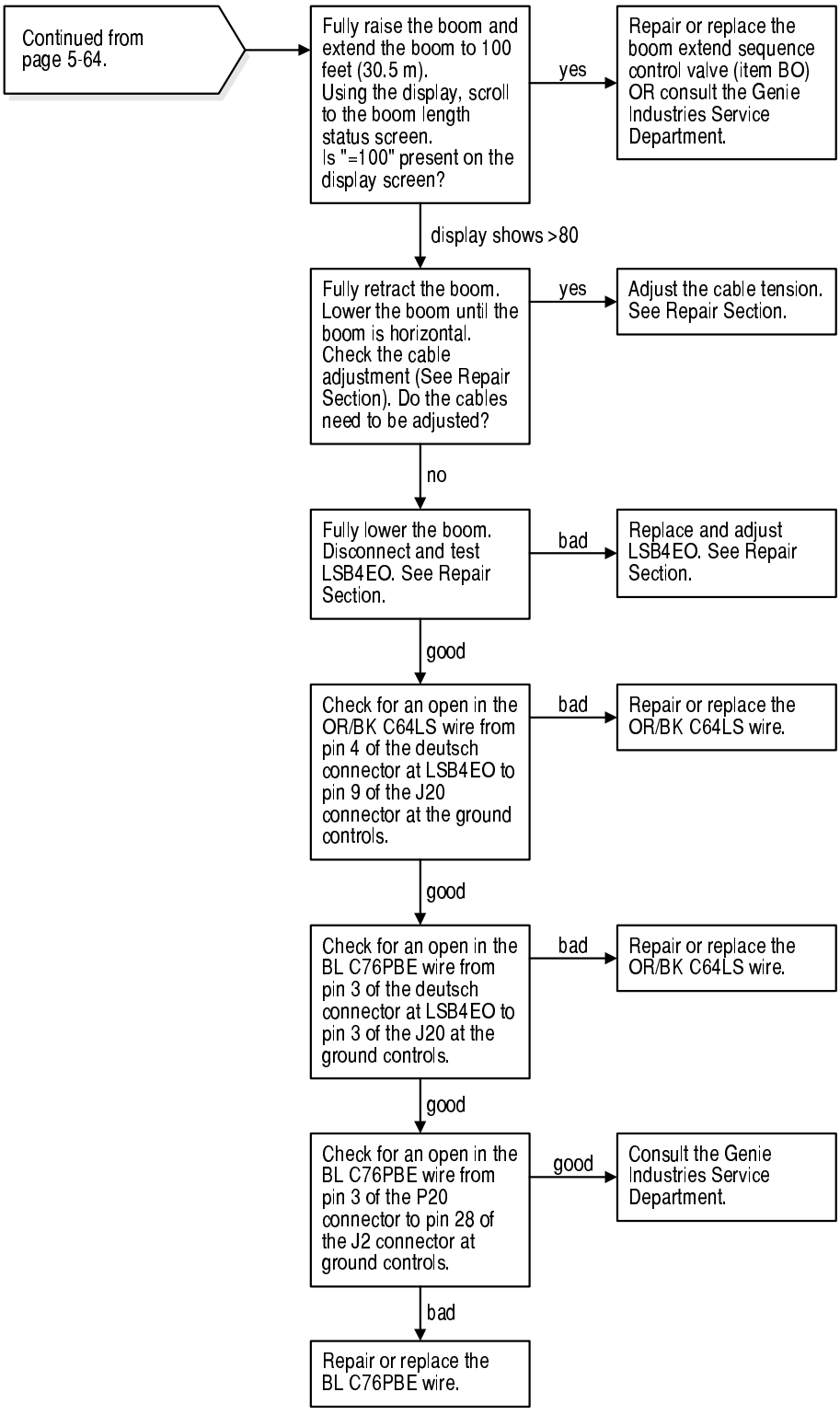

Continued from page 5-64.
Fully raise the boom and extend the boom to 100 feet (30.5 m). Using the display, scroll to the boom length status screen. Is "=100" present on the display screen?
yes
Repair or replace the boom extend sequence control valve (item BO) OR consult the Genie Industries Service Department.
display shows >80
Fully retract the boom. Lower the boom until the boom is horizontal. Check the cable adjustment (See Repair Section). Do the cables need to be adjusted?
yes
Adjust the cable tension. See Repair Section.
no
Fully lower the boom. Disconnect and test LSB4EO. See Repair Section.
bad
Replace and adjust LSB4EO. See Repair Section.
good
Check for an open in the OR/BK C64LS wire from pin 4 of the deutsch connector at LSB4EO to pin 9 of the J20 connector at the ground controls.
bad
Repair or replace the OR/BK C64LS wire.
good
Check for an open in the BL C76PBE wire from pin 3 of the deutsch connector at LSB4EO to pin 3 of the J20 at the ground controls.
bad
Repair or replace the OR/BK C64LS wire.
good
Check for an open in the BL C76PBE wire from pin 3 of the P20 connector to pin 28 of the J2 connector at ground controls.
good
Consult the Genie Industries Service Department.
bad
Repair or replace the BL C76PBE wire.

Chart 17

Boom Retract Function Inoperative

Make sure all other functions operate normally.

Be sure the axles are fully extended.

Be sure the batteries are fully charged and properly connected.

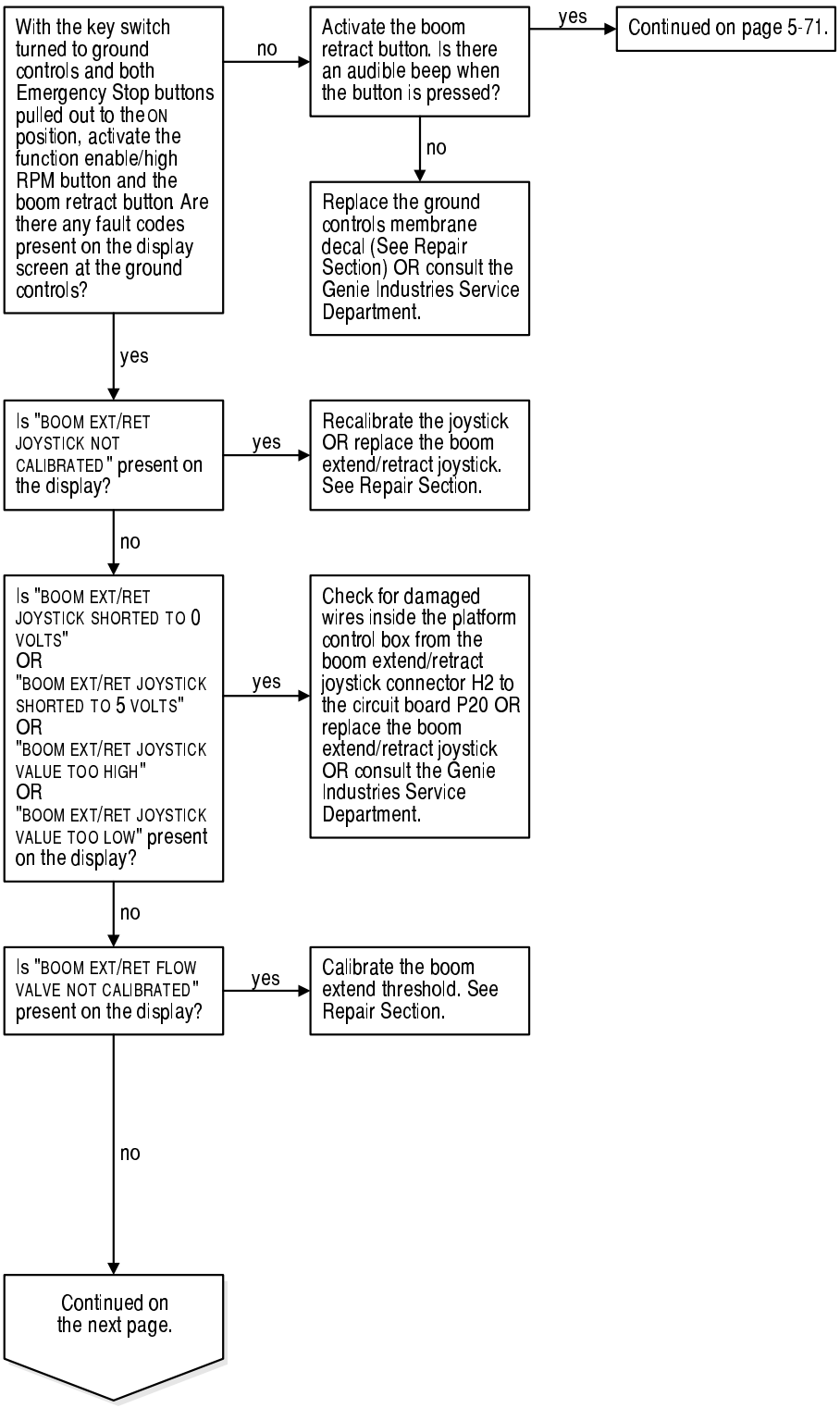

With the key switch turned to ground controls and both Emergency Stop buttons pulled out to the ON position, activate the function enable/high RPM button and the boom retract button. Are there any fault codes present on the display screen at the ground controls?
no
Activate the boom retract button. Is there an audible beep when the button is pressed?
yes
Continued on page 5-71.
no
Replace the ground controls membrane decal (See Repair Section) OR consult the Genie Industries Service Department.
yes
Is "BOOM EXT/RET JOYSTICK NOT CALIBRATED" present on the display?
yes
Recalibrate the joystick OR replace the boom extend/retract joystick. See Repair Section.
no
Is "BOOM EXT/RET JOYSTICK SHORTED TO 0 VOLTS" OR "BOOM EXT/RET JOYSTICK SHORTED TO 5 VOLTS" OR "BOOM EXT/RET JOYSTICK VALUE TOO HIGH" OR "BOOM EXT/RET JOYSTICK VALUE TOO LOW" present on the display?
yes
Check for damaged wires inside the platform control box from the boom extend/retract joystick connector H2 to the circuit board P20 OR replace the boom extend/retract joystick OR consult the Genie Industries Service Department.
no
Is "BOOM EXT/RET FLOW VALVE NOT CALIBRATED" present on the display?
yes
Calibrate the boom extend threshold. See Repair Section.
no
Continued on the next page.

CHART 17

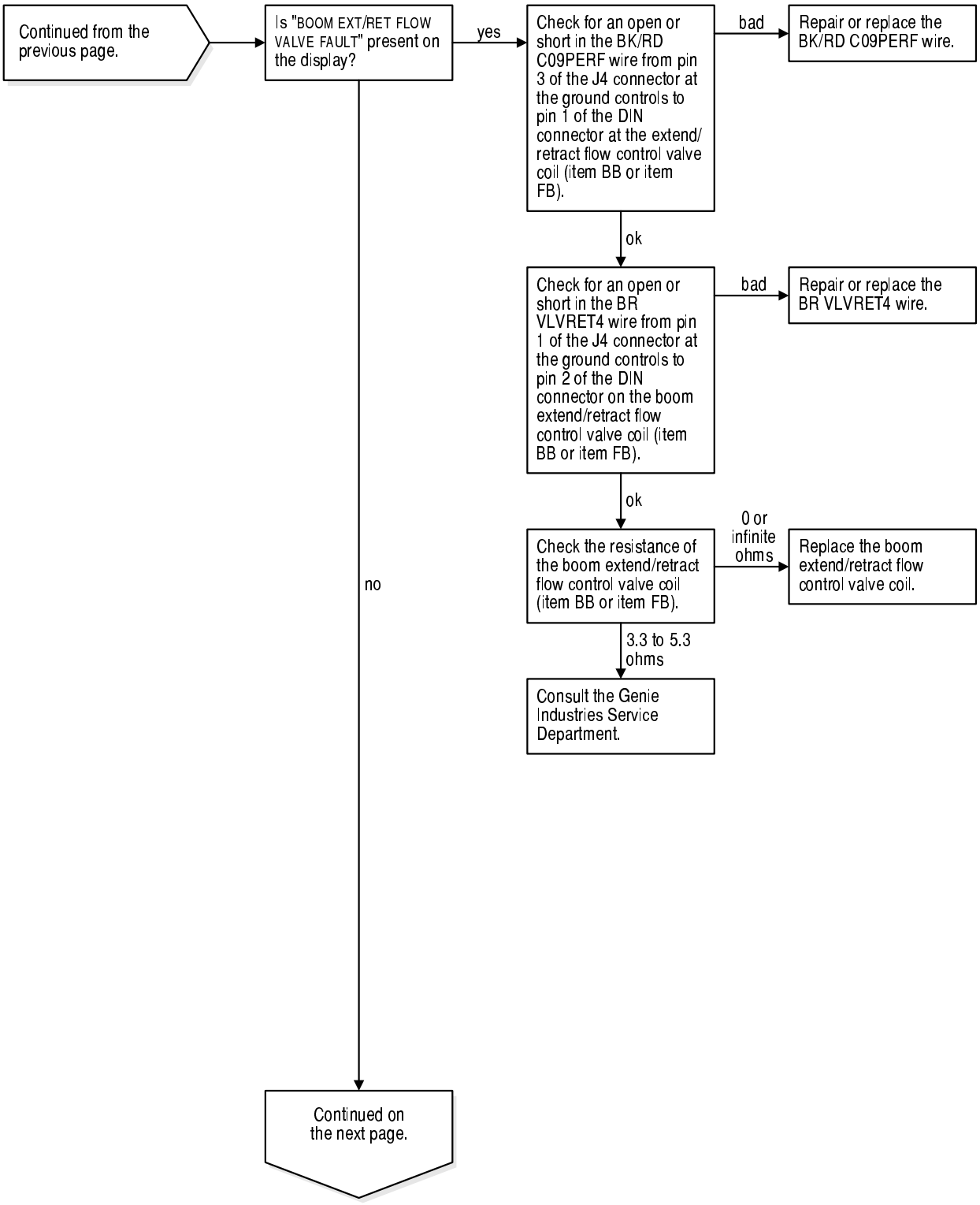

Continued from the previous page.
Is "BOOM EXT/RET FLOW VALVE FAULT" present on the display?
yes
no
Check for an open or short in the BK/RD C09PERF wire from pin 3 of the J4 connector at the ground controls to pin 1 of the DIN connector at the extend/ retract flow control valve coil (item BB or item FB).
bad
Repair or replace the BK/RD C09PERF wire.
ok
Check for an open or short in the BR VLVRET4 wire from pin 1 of the J4 connector at the ground controls to pin 2 of the DIN connector on the boom extend/retract flow control valve coil (item BB or item FB).
bad
Repair or replace the BR VLVRET4 wire.
ok
Check the resistance of the boom extend/retract flow control valve coil (item BB or item FB).
0 or infinite ohms
Replace the boom extend/retract flow control valve coil.
3.3 to 5.3 ohms
Consult the Genie Industries Service Department.
Continued on the next page.

CHART 17

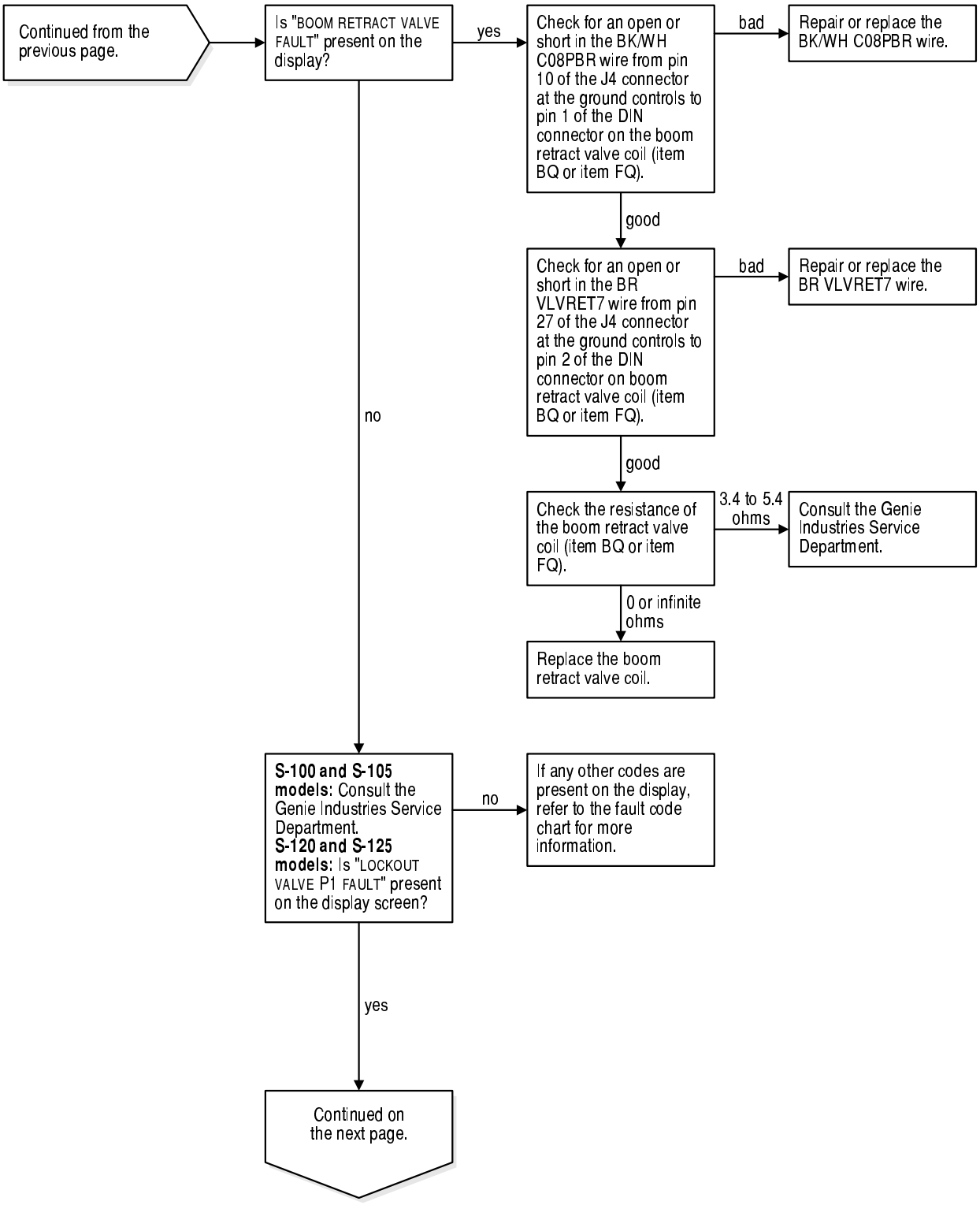

Continued from the previous page.
Is "BOOM RETRACT VALVE FAULT" present on the display?
yes
Check for an open or short in the BK/WH C08PBR wire from pin 10 of the J4 connector at the ground controls to pin 1 of the DIN connector on the boom retract valve coil (item BQ or item FQ).
bad
Repair or replace the BK/WH C08PBR wire.
good
Check for an open or short in the BR VLVRET7 wire from pin 27 of the J4 connector at the ground controls to pin 2 of the DIN connector on boom retract valve coil (item BQ or item FQ).
bad
Repair or replace the BR VLVRET7 wire.
good
Check the resistance of the boom retract valve coil (item BQ or item FQ).
3.4 to 5.4 ohms
Consult the Genie Industries Service Department.
0 or infinite ohms
Replace the boom retract valve coil.
no
S-100 and S-105 models: Consult the Genie Industries Service Department.
S-120 and S-125 models: Is "LOCKOUT VALVE P1 FAULT" present on the display screen?
no
If any other codes are present on the display, refer to the fault code chart for more information.
yes
Continued on the next page.

CHART 17

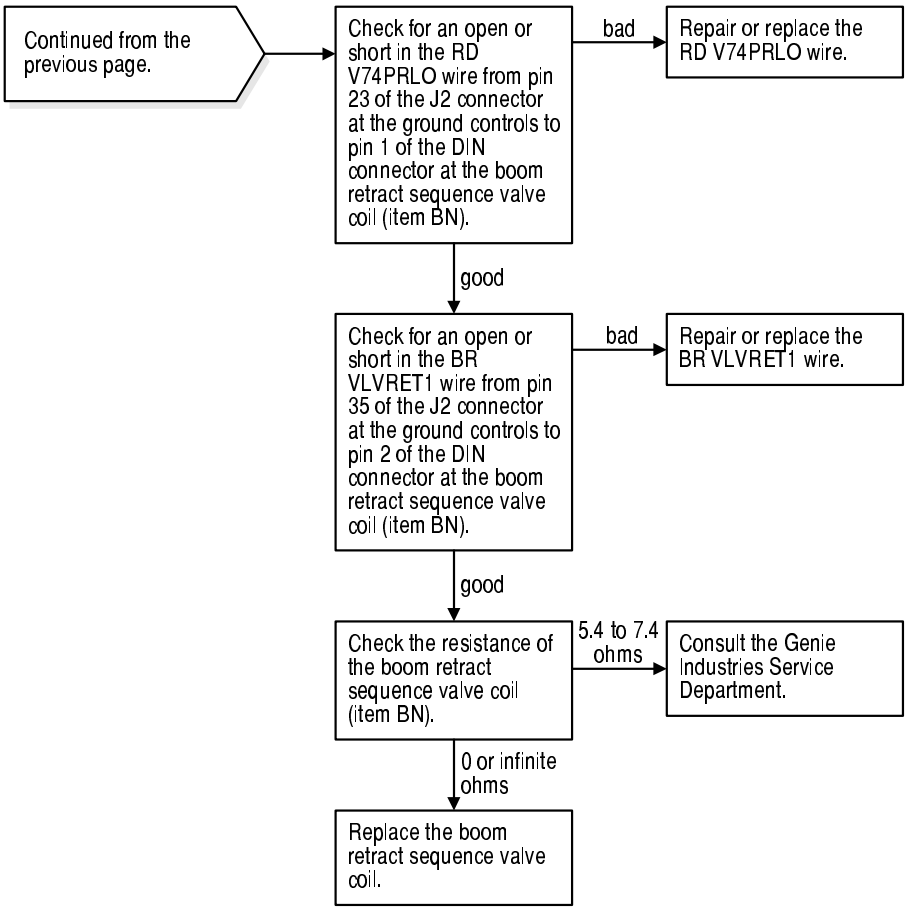

Continued from the previous page.
Check for an open or short in the RD V74PRLO wire from pin 23 of the J2 connector at the ground controls to pin 1 of the DIN connector at the boom retract sequence valve coil (item BN).
bad
Repair or replace the RD V74PRLO wire.
good
Check for an open or short in the BR VLVRET1 wire from pin 35 of the J2 connector at the ground controls to pin 2 of the DIN connector at the boom retract sequence valve coil (item BN).
bad
Repair or replace the BR VLVRET1 wire.
good
Check the resistance of the boom retract sequence valve coil (item BN).
5.4 to 7.4 ohms
Consult the Genie Industries Service Department.
0 or infinite ohms
Replace the boom retract sequence valve coil.

CHART 17

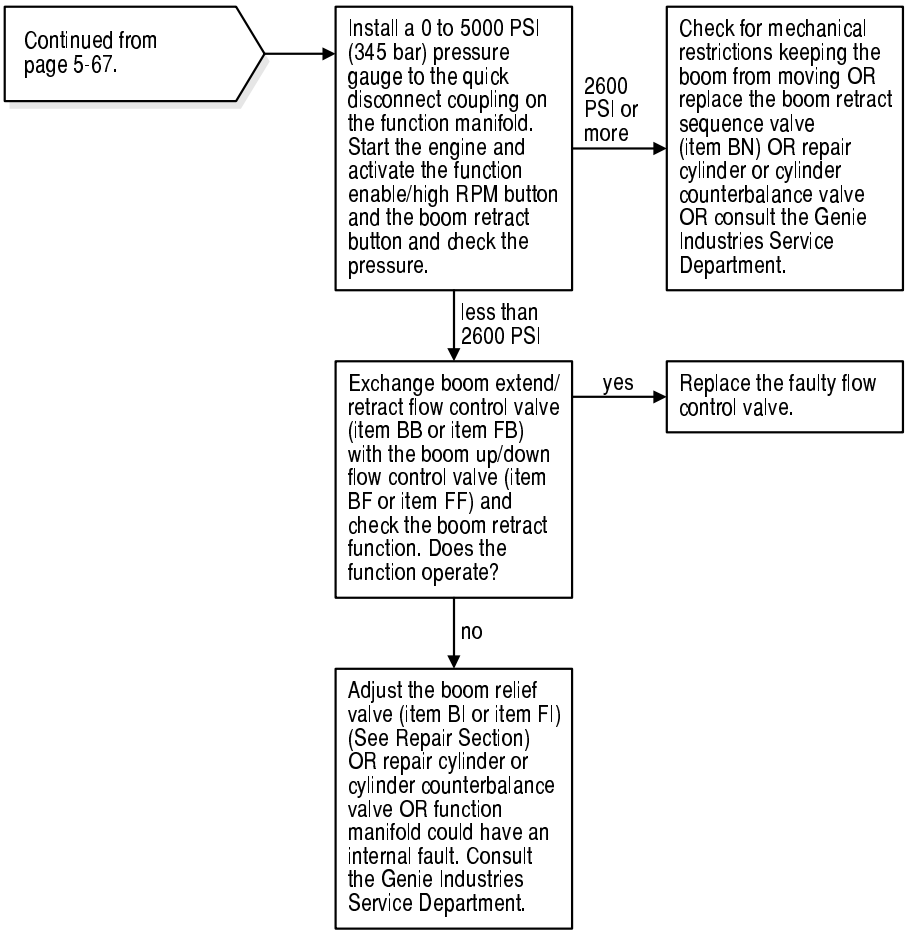

Continued from page 5-67.
Install a 0 to 5000 PSI (345 bar) pressure gauge to the quick disconnect coupling on the function manifold. Start the engine and activate the function enable/high RPM button and the boom retract button and check the pressure.
2600 PSI or more
Check for mechanical restrictions keeping the boom from moving OR replace the boom retract sequence valve (item BN) OR repair cylinder or cylinder counterbalance valve OR consult the Genie Industries Service Department.
less than 2600 PSI
Exchange boom extend/ retract flow control valve (item BB or item FB) with the boom up/down flow control valve (item BF or item FF) and check the boom retract function. Does the function operate?
yes
Replace the faulty flow control valve.
no
Adjust the boom relief valve (item BI or item FI) (See Repair Section) OR repair cylinder or cylinder counterbalance valve OR function manifold could have an internal fault. Consult the Genie Industries Service Department.

Chart 18

Boom Envelope Operational Switch Failure, S-100 and S-105 Models

A boom envelope safety fault is the result of the boom exceeding the operational limits and activating the safety switches OR when the safety switches are tripped within the operational range.

Press the (+) and (-) keys together to access the status screen. The status screen can display the following information:
- Hydraulic pressure
- Boom Length
- Boom Angle
- Axle status

Boom lengths are given in feet. The first number is the length for a S-100, the second number is for a S-105. For example, 75.5/80.5 feet.

Greater than or equal to is indicated by >= on the display.

A digital protractor will be needed to properly troubleshoot the machine.

Be sure the batteries are fully charged and properly connected.

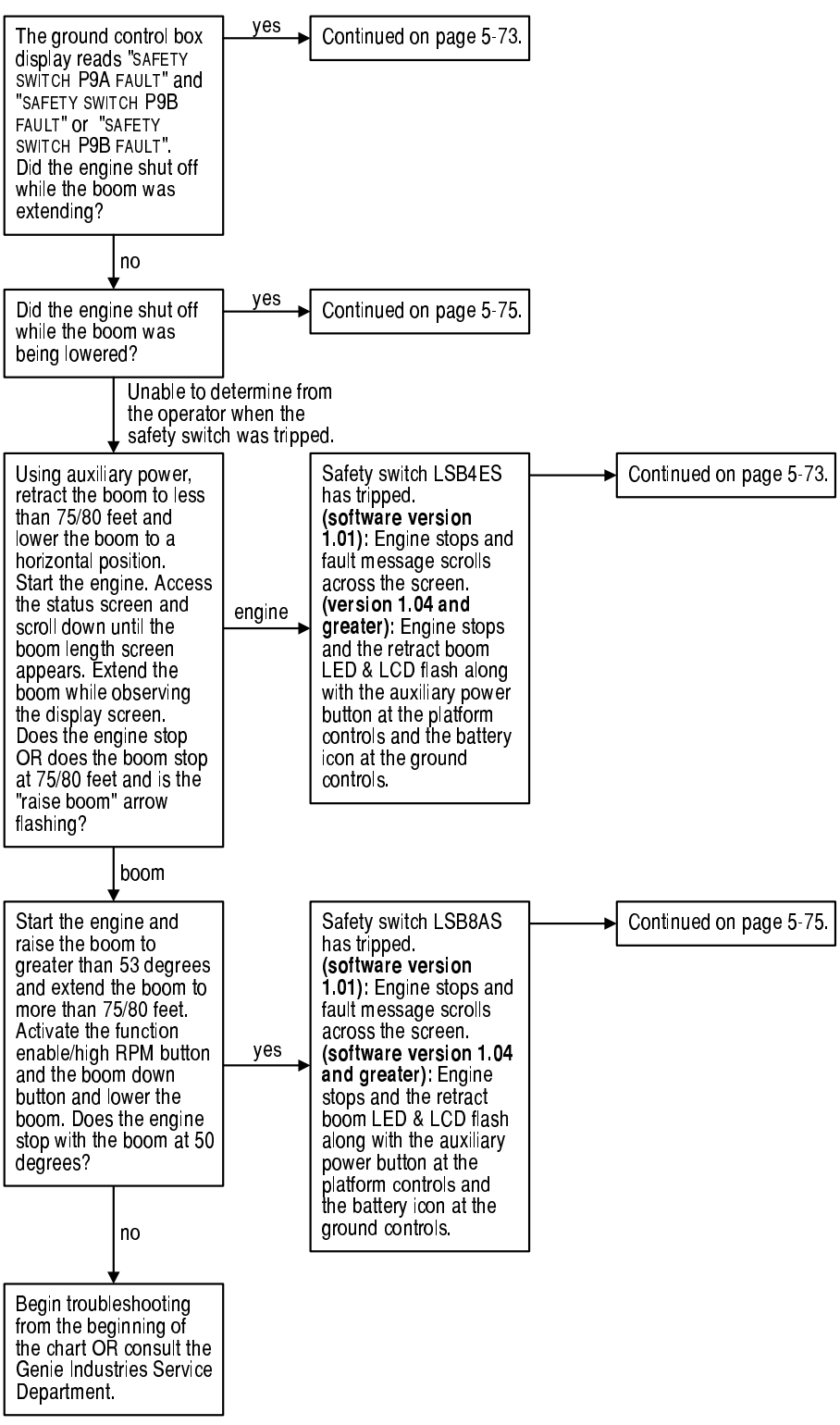

The ground control box display reads "SAFETY SWITCH P9A FAULT" and "SAFETY SWITCH P9B FAULT" or "SAFETY SWITCH P9B FAULT". Did the engine shut off while the boom was extending?
yes
Continued on page 5-73.
no
Did the engine shut off while the boom was being lowered?
yes
Continued on page 5-75.
Unable to determine from the operator when the safety switch was tripped.
Using auxiliary power, retract the boom to less than 75/80 feet and lower the boom to a horizontal position. Start the engine. Access the status screen and scroll down until the boom length screen appears. Extend the boom while observing the display screen. Does the engine stop OR does the boom stop at 75/80 feet and is the "raise boom" arrow flashing?
engine
Safety switch LSB4ES has tripped. (software version 1.01): Engine stops and fault message scrolls across the screen. (version 1.04 and greater): Engine stops and the retract boom LED & LCD flash along with the auxiliary power button at the platform controls and the battery icon at the ground controls.
Continued on page 5-73.
boom
Start the engine and raise the boom to greater than 53 degrees and extend the boom to more than 75/80 feet. Activate the function enable/high RPM button and the boom down button and lower the boom. Does the engine stop with the boom at 50 degrees?
yes
Safety switch LSB8AS has tripped. (software version 1.01): Engine stops and fault message scrolls across the screen. (software version 1.04 and greater): Engine stops and the retract boom LED & LCD flash along with the auxiliary power button at the platform controls and the battery icon at the ground controls.
Continued on page 5-75.
no
Begin troubleshooting from the beginning of the chart OR consult the Genie Industries Service Department.

CHART 18

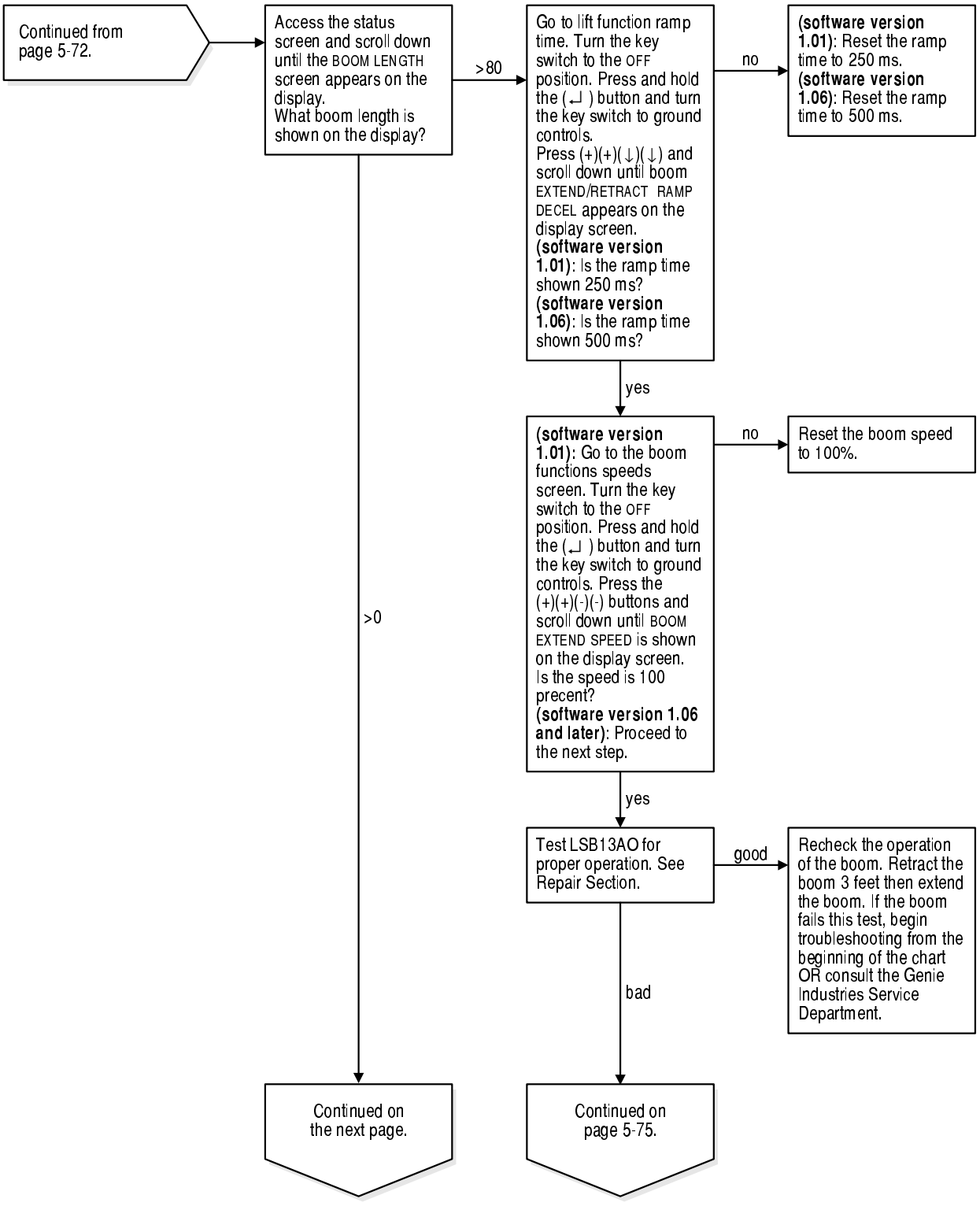

Continued from page 5-72.
Access the status screen and scroll down until the BOOM LENGTH screen appears on the display.
What boom length is shown on the display?
>80
>0
Go to lift function ramp time. Turn the key switch to the OFF position. Press and hold the (↵) button and turn the key switch to ground controls.
Press (+)(+)(↓)(↓) and scroll down until boom EXTEND/RETRACT RAMP DECEL appears on the display screen.
(software version 1.01): Is the ramp time shown 250 ms?
(software version 1.06): Is the ramp time shown 500 ms?
no
(software version 1.01): Reset the ramp time to 250 ms.
(software version 1.06): Reset the ramp time to 500 ms.
yes
(software version 1.01): Go to the boom functions speeds screen. Turn the key switch to the OFF position. Press and hold the (↵) button and turn the key switch to ground controls. Press the (+)(+)(-)(-) buttons and scroll down until BOOM EXTEND SPEED is shown on the display screen.
Is the speed is 100 precent?
(software version 1.06 and later): Proceed to the next step.
no
Reset the boom speed to 100%.
yes
Test LSB13AO for proper operation. See Repair Section.
good
Recheck the operation of the boom. Retract the boom 3 feet then extend the boom. If the boom fails this test, begin troubleshooting from the beginning of the chart OR consult the Genie Industries Service Department.
bad
Continued on the next page.
Continued on page 5-75.

CHART 18

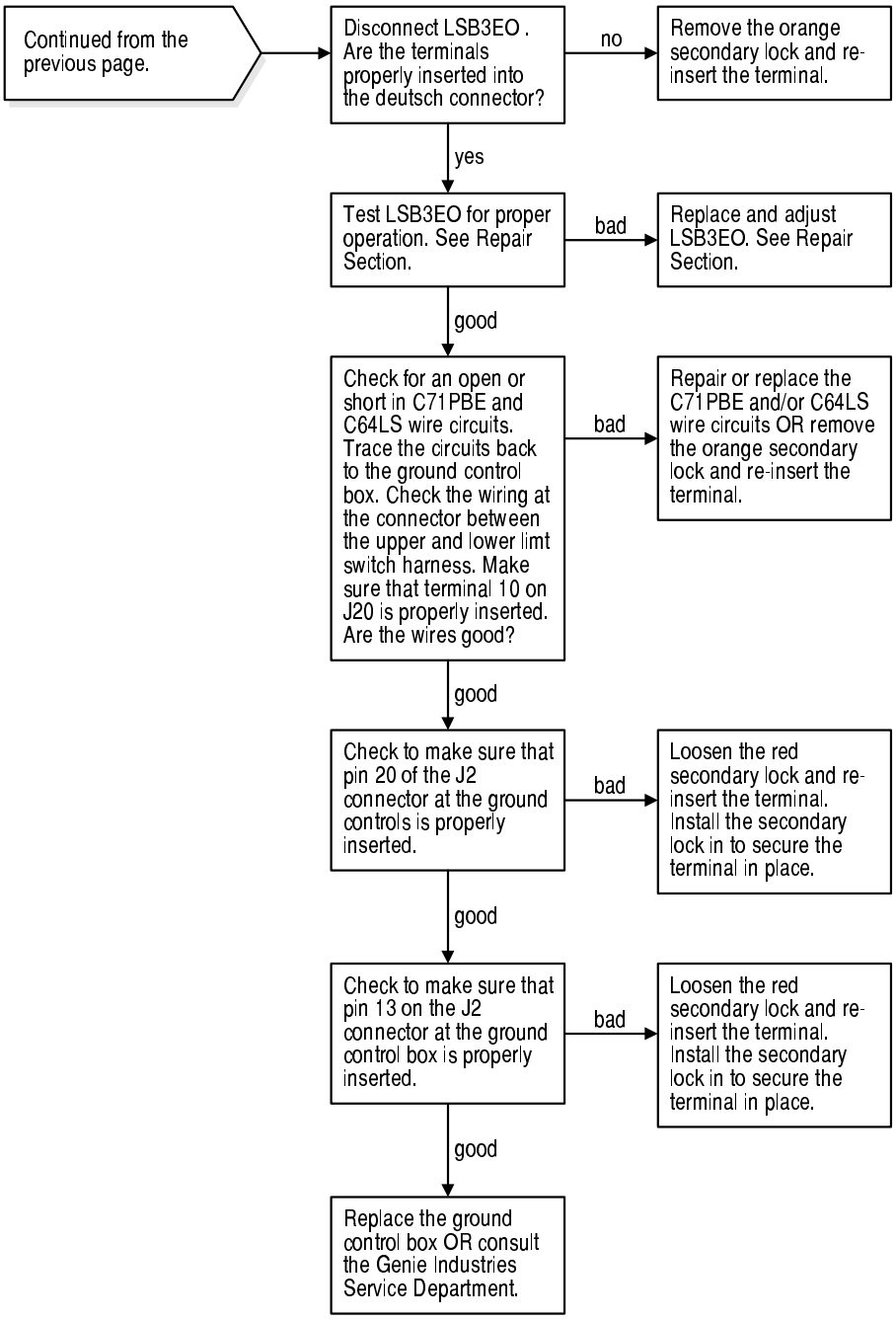

Continued from the previous page.
Disconnect LSB3EO . Are the terminals properly inserted into the deutsch connector?
no
Remove the orange secondary lock and re-insert the terminal.
yes
Test LSB3EO for proper operation. See Repair Section.
bad
Replace and adjust LSB3EO. See Repair Section.
good
Check for an open or short in C71PBE and C64LS wire circuits. Trace the circuits back to the ground control box. Check the wiring at the connector between the upper and lower limt switch harness. Make sure that terminal 10 on J20 is properly inserted. Are the wires good?
bad
Repair or replace the C71PBE and/or C64LS wire circuits OR remove the orange secondary lock and re-insert the terminal.
good
Check to make sure that pin 20 of the J2 connector at the ground controls is properly inserted.
bad
Loosen the red secondary lock and re-insert the terminal. Install the secondary lock in to secure the terminal in place.
good
Check to make sure that pin 13 on the J2 connector at the ground control box is properly inserted.
bad
Loosen the red secondary lock and re-insert the terminal. Install the secondary lock in to secure the terminal in place.
good
Replace the ground control box OR consult the Genie Industries Service Department.

CHART 18

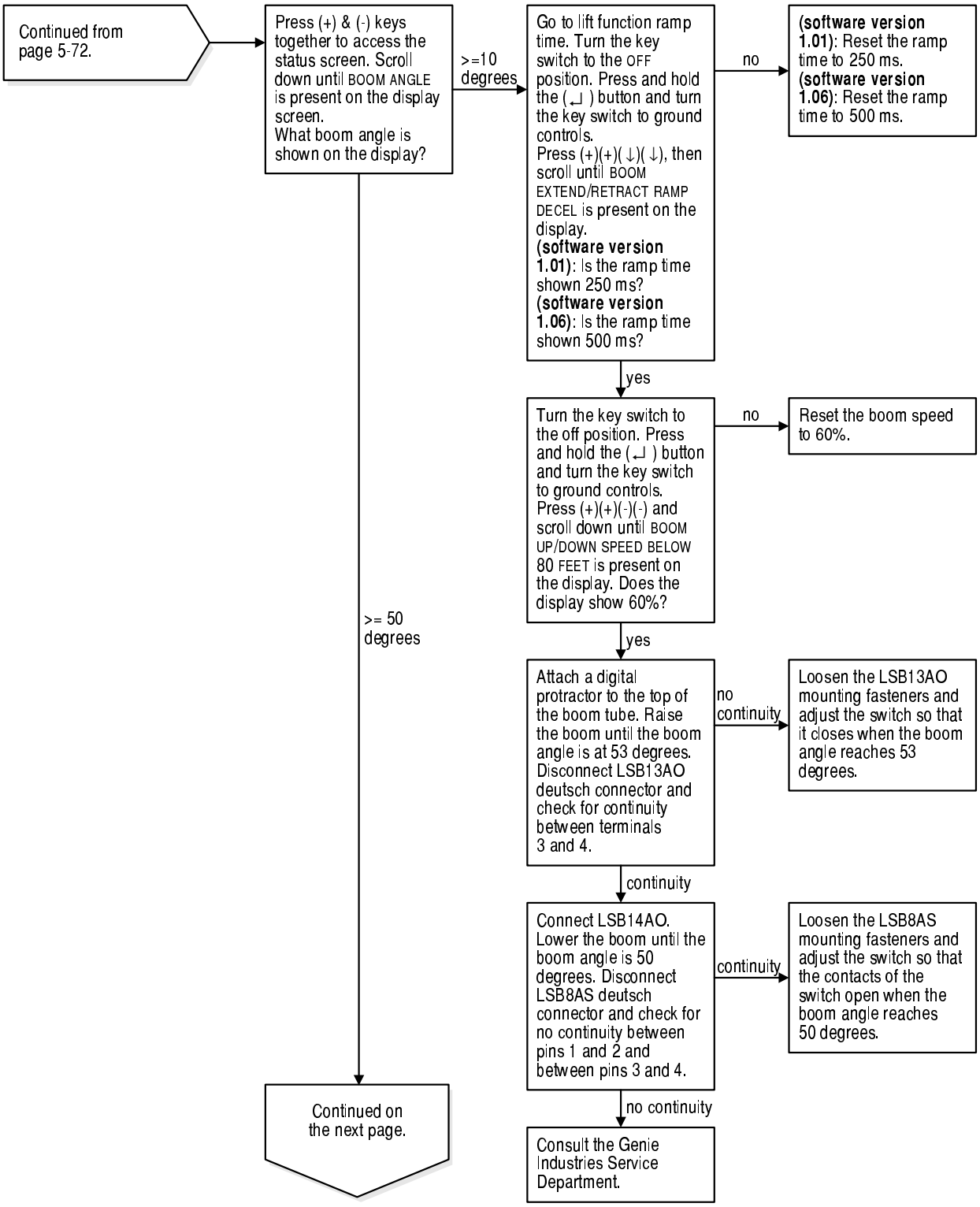

Continued from page 5-72.
Press (+) & (-) keys together to access the status screen. Scroll down until BOOM ANGLE is present on the display screen.
What boom angle is shown on the display?
>=10 degrees
>= 50 degrees
Go to lift function ramp time. Turn the key switch to the OFF position. Press and hold the (↵) button and turn the key switch to ground controls.
Press (+)(+)(↓)(↓), then scroll until BOOM EXTEND/RETRACT RAMP DECEL is present on the display.
(software version 1.01): Is the ramp time shown 250 ms?
(software version 1.06): Is the ramp time shown 500 ms?
no
(software version 1.01): Reset the ramp time to 250 ms.
(software version 1.06): Reset the ramp time to 500 ms.
yes
Turn the key switch to the off position. Press and hold the (↵) button and turn the key switch to ground controls.
Press (+)(+)(-)(-) and scroll down until BOOM UP/DOWN SPEED BELOW 80 FEET is present on the display. Does the display show 60%?
no
Reset the boom speed to 60%.
yes
Attach a digital protractor to the top of the boom tube. Raise the boom until the boom angle is at 53 degrees. Disconnect LSB13AO deutsch connector and check for continuity between terminals 3 and 4.
no continuity
Loosen the LSB13AO mounting fasteners and adjust the switch so that it closes when the boom angle reaches 53 degrees.
continuity
Connect LSB14AO. Lower the boom until the boom angle is 50 degrees. Disconnect LSB8AS deutsch connector and check for no continuity between pins 1 and 2 and between pins 3 and 4.
continuity
Loosen the LSB8AS mounting fasteners and adjust the switch so that the contacts of the switch open when the boom angle reaches 50 degrees.
no continuity
Consult the Genie Industries Service Department.
Continued on the next page.

CHART 18

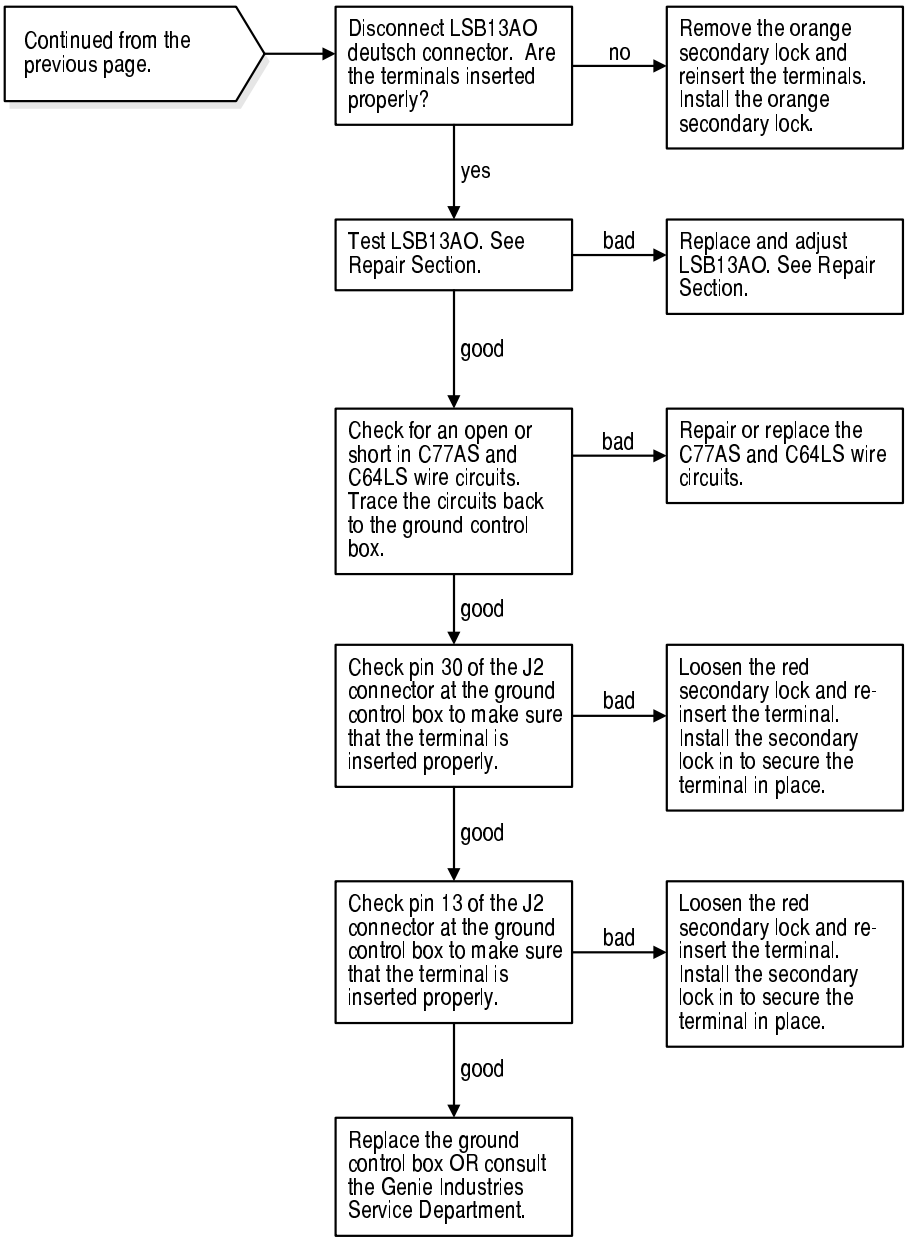

Continued from the previous page.
Disconnect LSB13AO deutsch connector. Are the terminals inserted properly?
no
Remove the orange secondary lock and reinsert the terminals. Install the orange secondary lock.
yes
Test LSB13AO. See Repair Section.
bad
Replace and adjust LSB13AO. See Repair Section.
good
Check for an open or short in C77AS and C64LS wire circuits. Trace the circuits back to the ground control box.
bad
Repair or replace the C77AS and C64LS wire circuits.
good
Check pin 30 of the J2 connector at the ground control box to make sure that the terminal is inserted properly.
bad
Loosen the red secondary lock and re-insert the terminal. Install the secondary lock in to secure the terminal in place.
good
Check pin 13 of the J2 connector at the ground control box to make sure that the terminal is inserted properly.
bad
Loosen the red secondary lock and re-insert the terminal. Install the secondary lock in to secure the terminal in place.
good
Replace the ground control box OR consult the Genie Industries Service Department.

Chart 19

Boom Envelope Operational Switch Failure, S-120 and S-125 Models

A boom envelope safety fault is the result of the boom exceeding the operational limits and activating the safety switches OR when the safety switches are tripped within the operational range.

Press the (+) and (-) keys together to access the status screen. The status screen can display the following information:
- Hydraulic pressure
- Boom Length
- Boom Angle
- Axle status

Boom lengths are given in feet. The first number is the length for a S-120, the second number is for a S-125. For example, 75.5/80.5 feet.

Greater than or equal to is indicated by >= on the display.

A digital protractor will be needed to properly troubleshoot the machine.

Be sure the batteries are fully charged and properly connected.

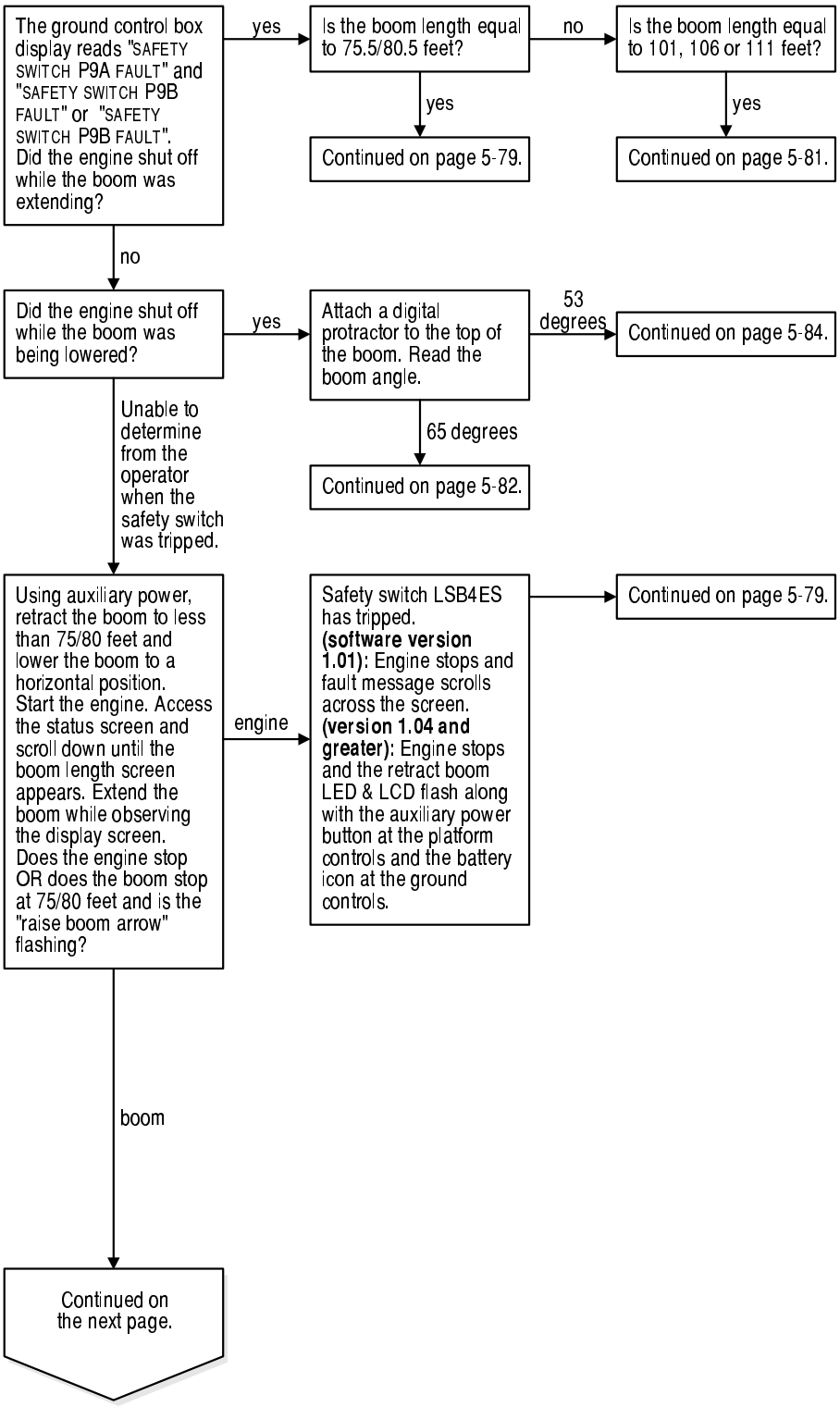

The ground control box display reads "SAFETY SWITCH P9A FAULT" and "SAFETY SWITCH P9B FAULT" or "SAFETY SWITCH P9B FAULT". Did the engine shut off while the boom was extending?
yes
Is the boom length equal to 75.5/80.5 feet?
no
Is the boom length equal to 101, 106 or 111 feet?
yes
Continued on page 5-79.
yes
Continued on page 5-81.
no
Did the engine shut off while the boom was being lowered?
yes
Attach a digital protractor to the top of the boom. Read the boom angle.
53 degrees
Continued on page 5-84.
65 degrees
Continued on page 5-82.
Unable to determine from the operator when the safety switch was tripped.
Using auxiliary power, retract the boom to less than 75/80 feet and lower the boom to a horizontal position. Start the engine. Access the status screen and scroll down until the boom length screen appears. Extend the boom while observing the display screen. Does the engine stop OR does the boom stop at 75/80 feet and is the "raise boom arrow" flashing?
engine
Safety switch LSB4ES has tripped. (software version 1.01): Engine stops and fault message scrolls across the screen. (version 1.04 and greater): Engine stops and the retract boom LED & LCD flash along with the auxiliary power button at the platform controls and the battery icon at the ground controls.
Continued on page 5-79.
boom
Continued on the next page.

CHART 19

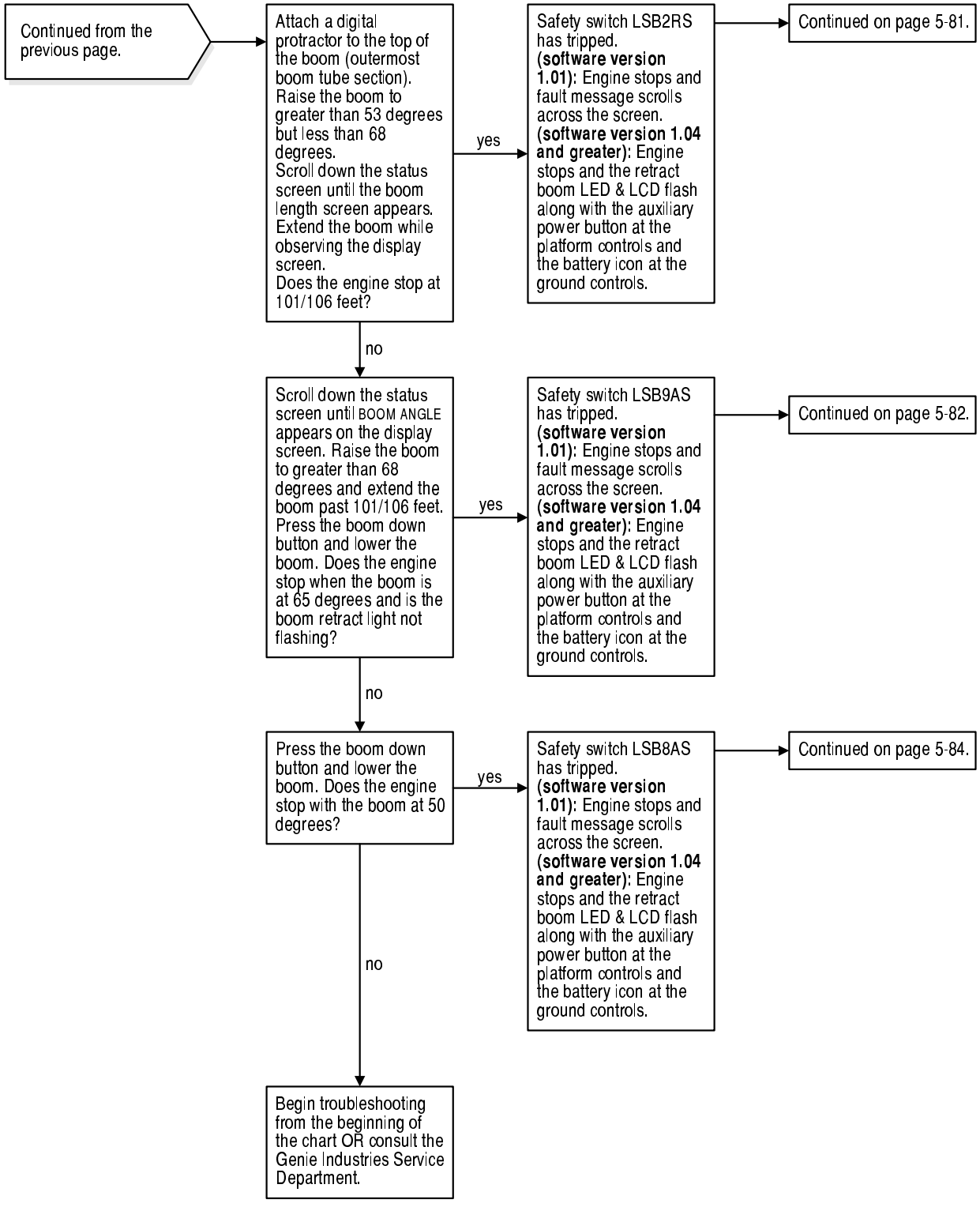

Continued from the previous page.
Attach a digital protractor to the top of the boom (outermost boom tube section). Raise the boom to greater than 53 degrees but less than 68 degrees. Scroll down the status screen until the boom length screen appears. Extend the boom while observing the display screen. Does the engine stop at 101/106 feet?
yes
Safety switch LSB2RS has tripped. (software version 1.01): Engine stops and fault message scrolls across the screen. (software version 1.04 and greater): Engine stops and the retract boom LED & LCD flash along with the auxiliary power button at the platform controls and the battery icon at the ground controls.
Continued on page 5-81.
no
Scroll down the status screen until BOOM ANGLE appears on the display screen. Raise the boom to greater than 68 degrees and extend the boom past 101/106 feet. Press the boom down button and lower the boom. Does the engine stop when the boom is at 65 degrees and is the boom retract light not flashing?
yes
Safety switch LSB9AS has tripped. (software version 1.01): Engine stops and fault message scrolls across the screen. (software version 1.04 and greater): Engine stops and the retract boom LED & LCD flash along with the auxiliary power button at the platform controls and the battery icon at the ground controls.
Continued on page 5-82.
no
Press the boom down button and lower the boom. Does the engine stop with the boom at 50 degrees?
yes
Safety switch LSB8AS has tripped. (software version 1.01): Engine stops and fault message scrolls across the screen. (software version 1.04 and greater): Engine stops and the retract boom LED & LCD flash along with the auxiliary power button at the platform controls and the battery icon at the ground controls.
Continued on page 5-84.
no
Begin troubleshooting from the beginning of the chart OR consult the Genie Industries Service Department.

CHART 19

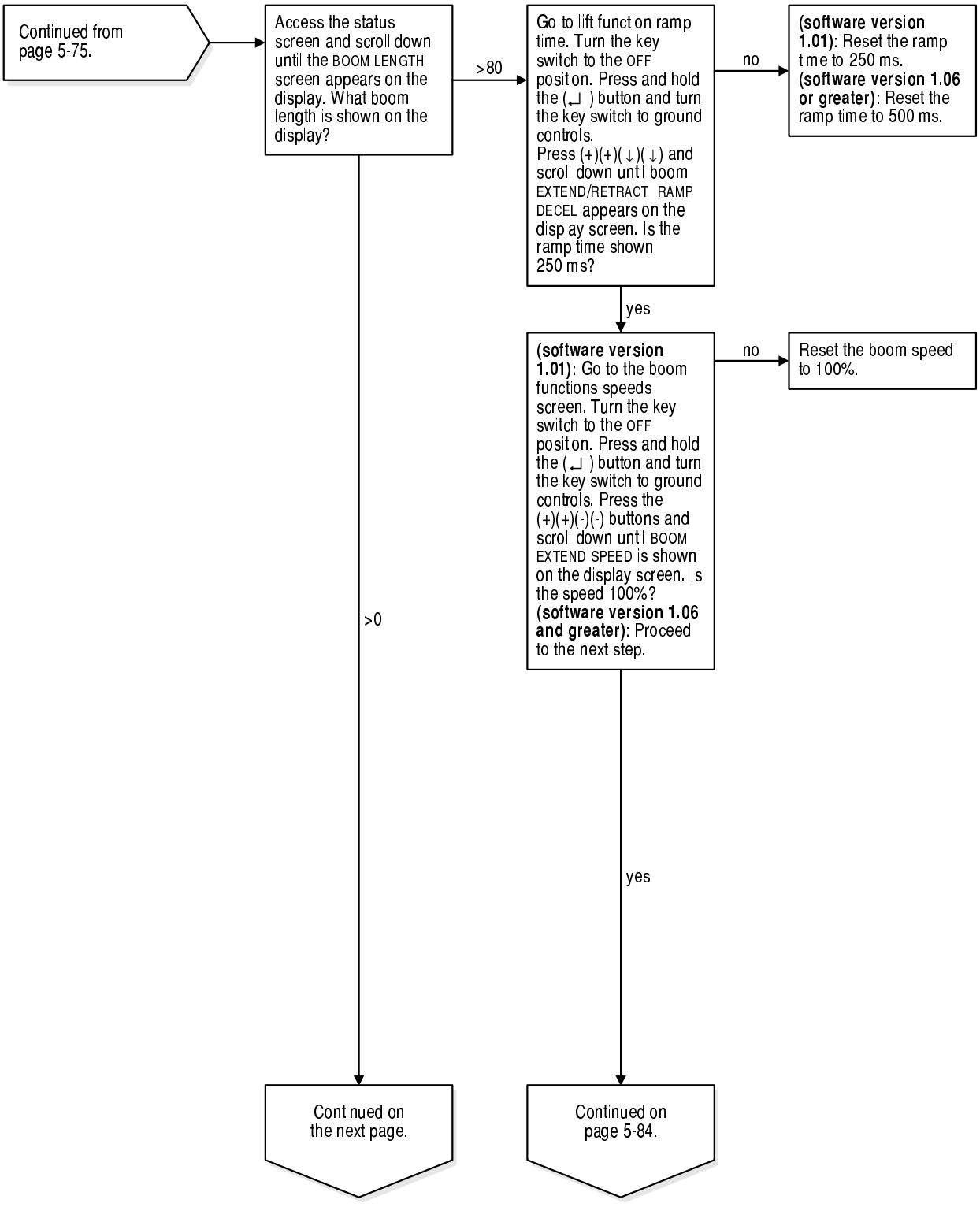

Continued from page 5-75.
Access the status screen and scroll down until the BOOM LENGTH screen appears on the display. What boom length is shown on the display?
>80
Go to lift function ramp time. Turn the key switch to the OFF position. Press and hold the (↵) button and turn the key switch to ground controls. Press (+)(+)(↓)(↓) and scroll down until boom EXTEND/RETRACT RAMP DECEL appears on the display screen. Is the ramp time shown 250 ms?
no
(software version 1.01): Reset the ramp time to 250 ms. (software version 1.06 or greater): Reset the ramp time to 500 ms.
yes
(software version 1.01): Go to the boom functions speeds screen. Turn the key switch to the OFF position. Press and hold the (↵) button and turn the key switch to ground controls. Press the (+)(+)(-)(-) buttons and scroll down until BOOM EXTEND SPEED is shown on the display screen. Is the speed 100%? (software version 1.06 and greater): Proceed to the next step.
no
Reset the boom speed to 100%.
>0
yes
Continued on the next page.
Continued on page 5-84.

CHART 19

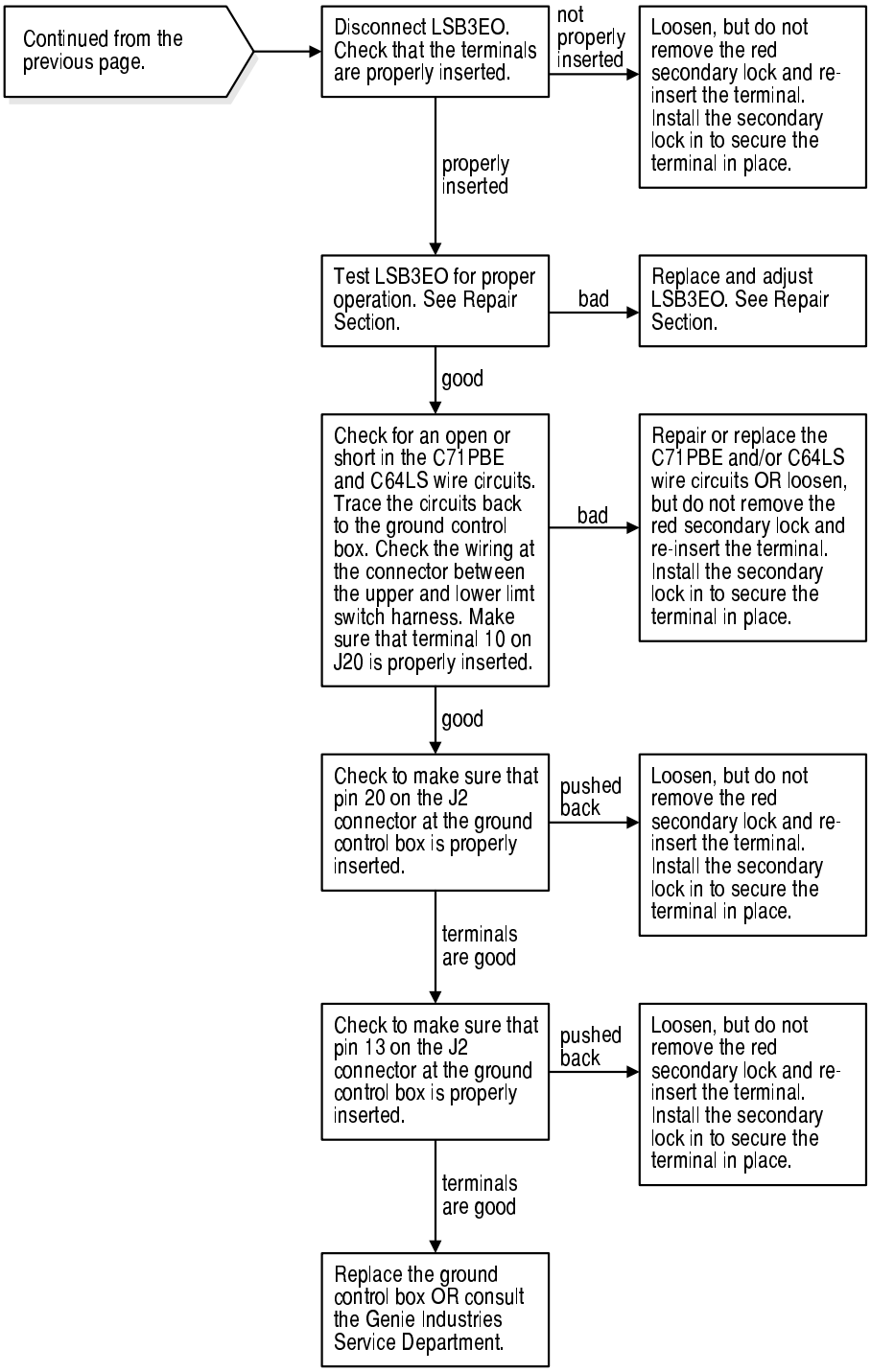

Continued from the previous page.
Disconnect LSB3EO. Check that the terminals are properly inserted.
not properly inserted
Loosen, but do not remove the red secondary lock and re-insert the terminal. Install the secondary lock in to secure the terminal in place.
properly inserted
Test LSB3EO for proper operation. See Repair Section.
bad
Replace and adjust LSB3EO. See Repair Section.
good
Check for an open or short in the C71PBE and C64LS wire circuits. Trace the circuits back to the ground control box. Check the wiring at the connector between the upper and lower limt switch harness. Make sure that terminal 10 on J20 is properly inserted.
bad
Repair or replace the C71PBE and/or C64LS wire circuits OR loosen, but do not remove the red secondary lock and re-insert the terminal. Install the secondary lock in to secure the terminal in place.
good
Check to make sure that pin 20 on the J2 connector at the ground control box is properly inserted.
pushed back
Loosen, but do not remove the red secondary lock and re-insert the terminal. Install the secondary lock in to secure the terminal in place.
terminals are good
Check to make sure that pin 13 on the J2 connector at the ground control box is properly inserted.
pushed back
Loosen, but do not remove the red secondary lock and re-insert the terminal. Install the secondary lock in to secure the terminal in place.
terminals are good
Replace the ground control box OR consult the Genie Industries Service Department.

CHART 19

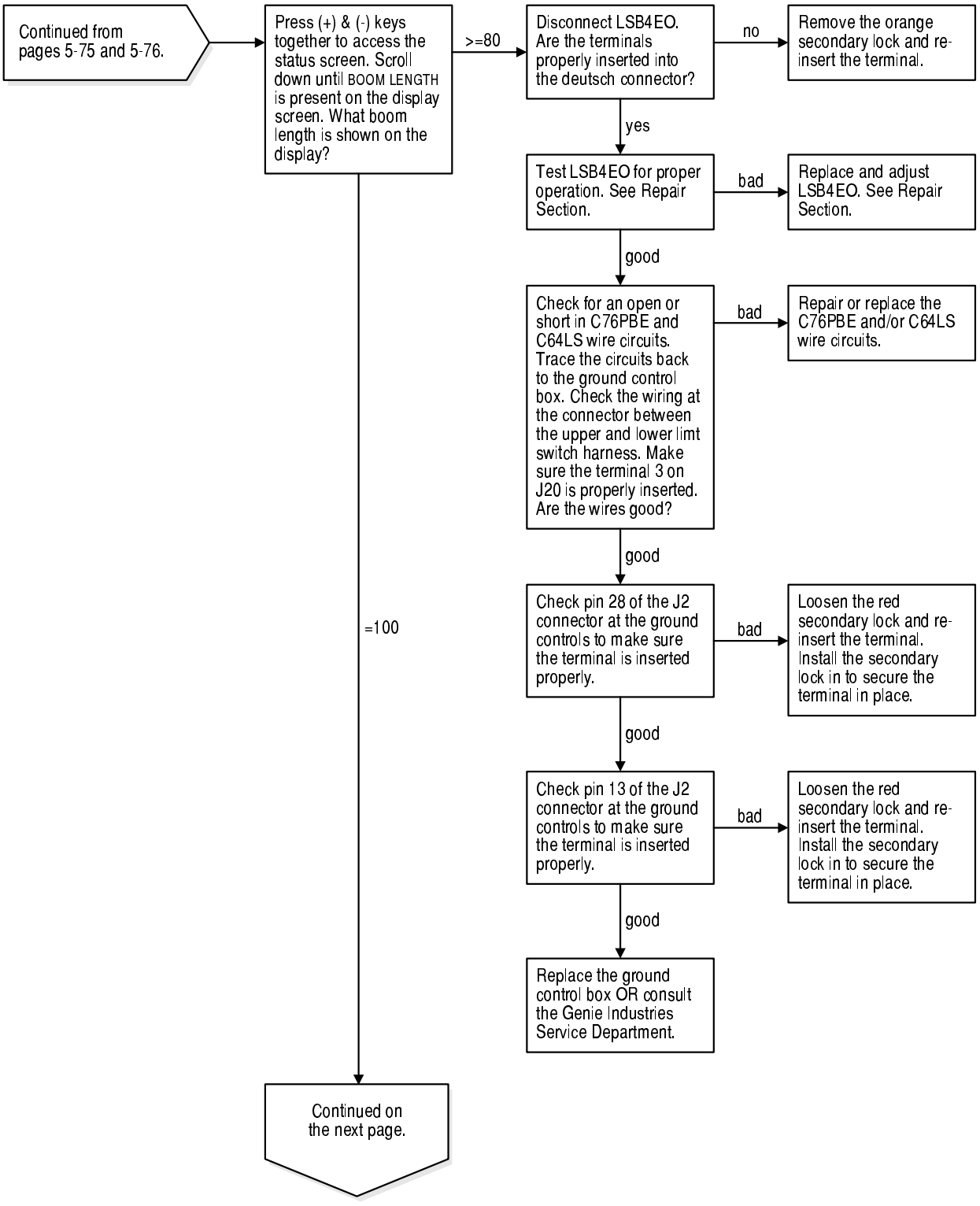

Continued from pages 5-75 and 5-76.
Press (+) & (-) keys together to access the status screen. Scroll down until BOOM LENGTH is present on the display screen. What boom length is shown on the display?
>=80
Disconnect LSB4EO. Are the terminals properly inserted into the deutsch connector?
no
Remove the orange secondary lock and re-insert the terminal.
yes
Test LSB4EO for proper operation. See Repair Section.
bad
Replace and adjust LSB4EO. See Repair Section.
good
Check for an open or short in C76PBE and C64LS wire circuits. Trace the circuits back to the ground control box. Check the wiring at the connector between the upper and lower limt switch harness. Make sure the terminal 3 on J20 is properly inserted. Are the wires good?
bad
Repair or replace the C76PBE and/or C64LS wire circuits.
good
Check pin 28 of the J2 connector at the ground controls to make sure the terminal is inserted properly.
bad
Loosen the red secondary lock and re-insert the terminal. Install the secondary lock in to secure the terminal in place.
good
Check pin 13 of the J2 connector at the ground controls to make sure the terminal is inserted properly.
bad
Loosen the red secondary lock and re-insert the terminal. Install the secondary lock in to secure the terminal in place.
good
Replace the ground control box OR consult the Genie Industries Service Department.
=100
Continued on the next page.

CHART 19

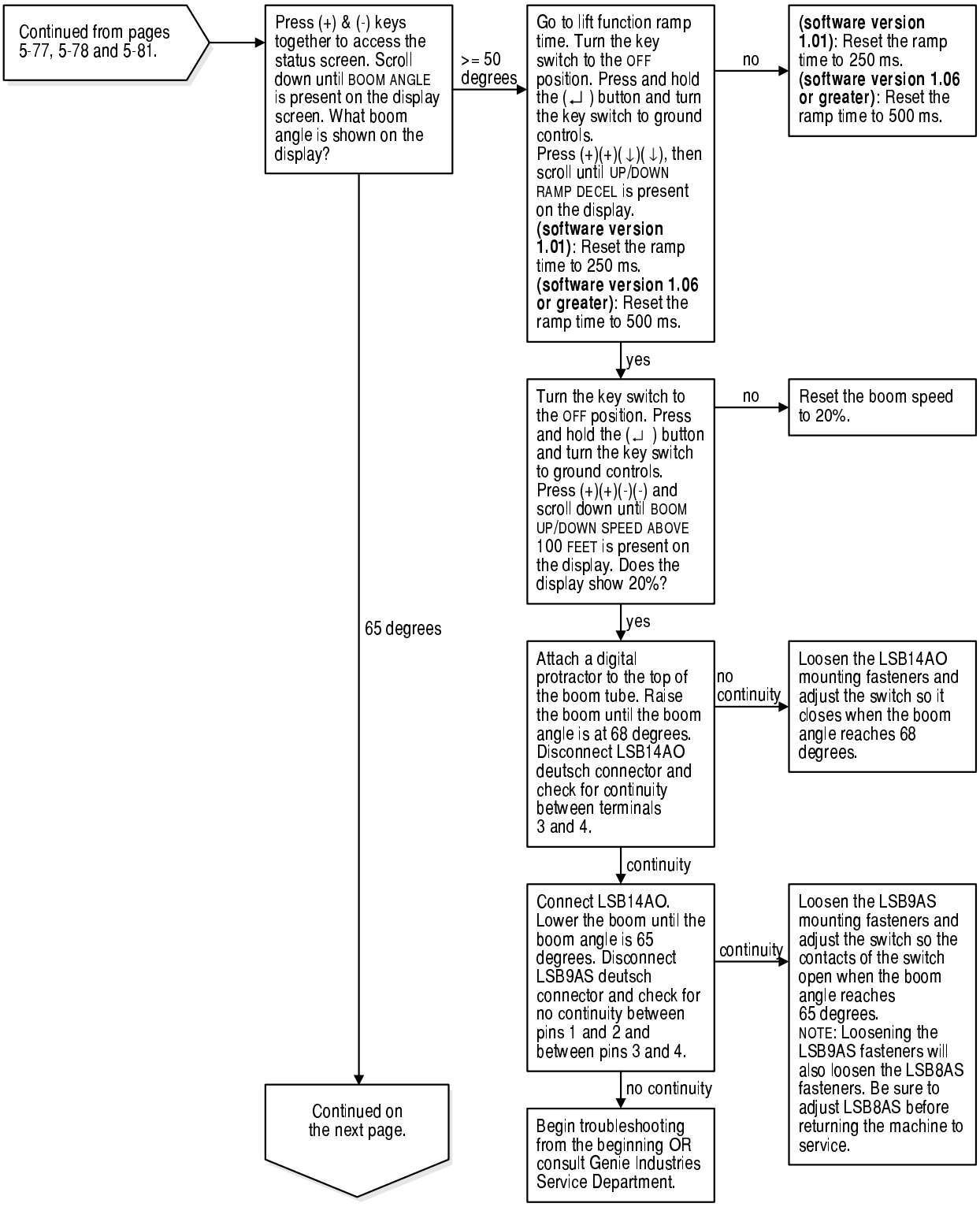

Continued from pages 5-77, 5-78 and 5-81.
Press (+) & (-) keys together to access the status screen. Scroll down until BOOM ANGLE is present on the display screen. What boom angle is shown on the display?
>= 50 degrees
65 degrees
Go to lift function ramp time. Turn the key switch to the OFF position. Press and hold the (↵) button and turn the key switch to ground controls. Press (+)(+)(↓)(↓), then scroll until UP/DOWN RAMP DECEL is present on the display. (software version 1.01): Reset the ramp time to 250 ms. (software version 1.06 or greater): Reset the ramp time to 500 ms.
no
(software version 1.01): Reset the ramp time to 250 ms. (software version 1.06 or greater): Reset the ramp time to 500 ms.
yes
Turn the key switch to the OFF position. Press and hold the (↵) button and turn the key switch to ground controls. Press (+)(+)(-)(-) and scroll down until BOOM UP/DOWN SPEED ABOVE 100 FEET is present on the display. Does the display show 20%?
no
Reset the boom speed to 20%.
yes
Attach a digital protractor to the top of the boom tube. Raise the boom until the boom angle is at 68 degrees. Disconnect LSB14AO deutsch connector and check for continuity between terminals 3 and 4.
no continuity
Loosen the LSB14AO mounting fasteners and adjust the switch so it closes when the boom angle reaches 68 degrees.
continuity
Connect LSB14AO. Lower the boom until the boom angle is 65 degrees. Disconnect LSB9AS deutsch connector and check for no continuity between pins 1 and 2 and between pins 3 and 4.
continuity
Loosen the LSB9AS mounting fasteners and adjust the switch so the contacts of the switch open when the boom angle reaches 65 degrees. NOTE: Loosening the LSB9AS fasteners will also loosen the LSB8AS fasteners. Be sure to adjust LSB8AS before returning the machine to service.
no continuity
Begin troubleshooting from the beginning OR consult Genie Industries Service Department.
Continued on the next page.

CHART 19

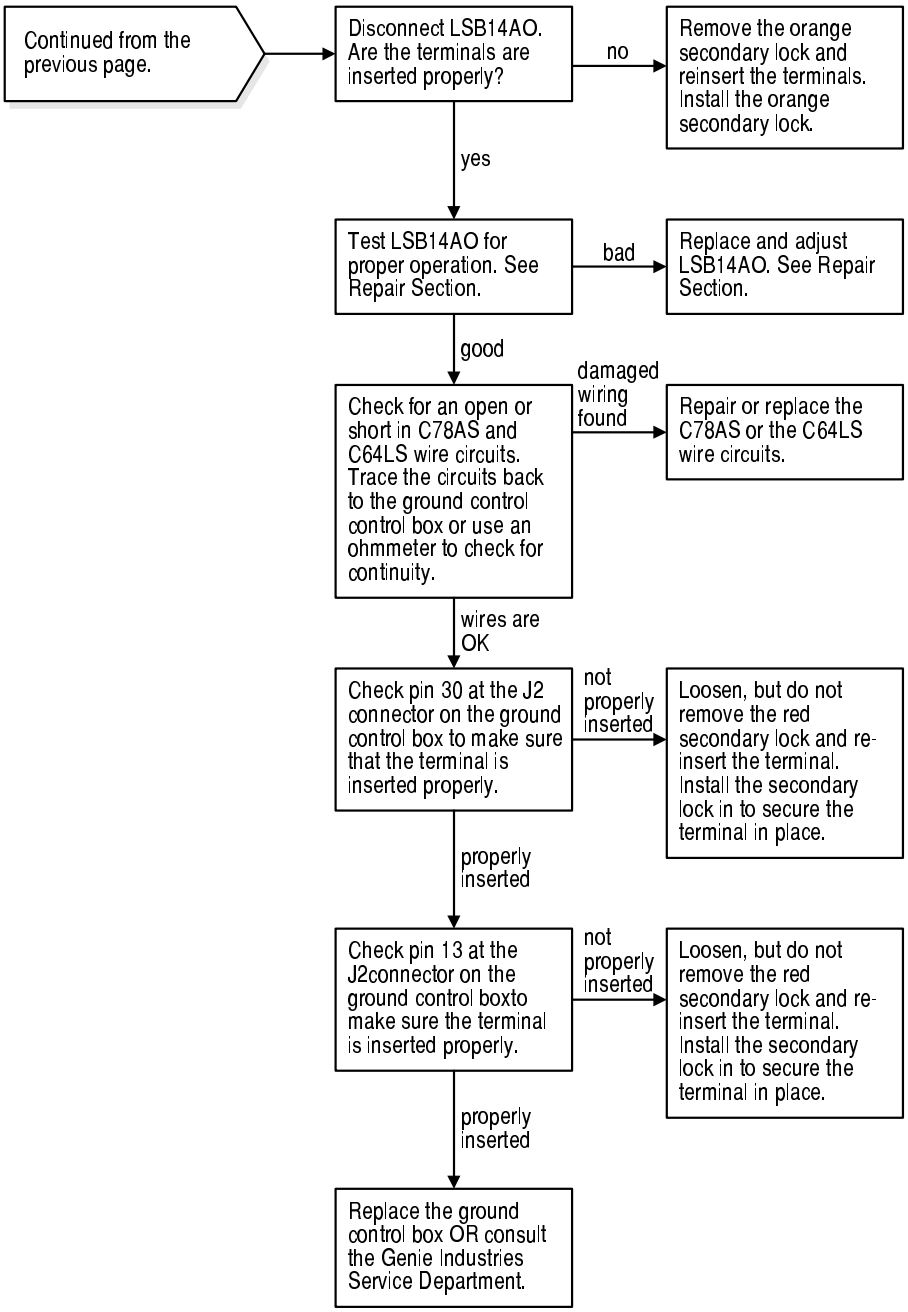

Continued from the previous page.
Disconnect LSB14AO. Are the terminals are inserted properly?
no
Remove the orange secondary lock and reinsert the terminals. Install the orange secondary lock.
yes
Test LSB14AO for proper operation. See Repair Section.
bad
Replace and adjust LSB14AO. See Repair Section.
good
Check for an open or short in C78AS and C64LS wire circuits. Trace the circuits back to the ground control control box or use an ohmmeter to check for continuity.
damaged wiring found
Repair or replace the C78AS or the C64LS wire circuits.
wires are OK
Check pin 30 at the J2 connector on the ground control box to make sure that the terminal is inserted properly.
not properly inserted
Loosen, but do not remove the red secondary lock and re-insert the terminal. Install the secondary lock in to secure the terminal in place.
properly inserted
Check pin 13 at the J2connector on the ground control boxto make sure the terminal is inserted properly.
not properly inserted
Loosen, but do not remove the red secondary lock and re-insert the terminal. Install the secondary lock in to secure the terminal in place.
properly inserted
Replace the ground control box OR consult the Genie Industries Service Department.

CHART 19

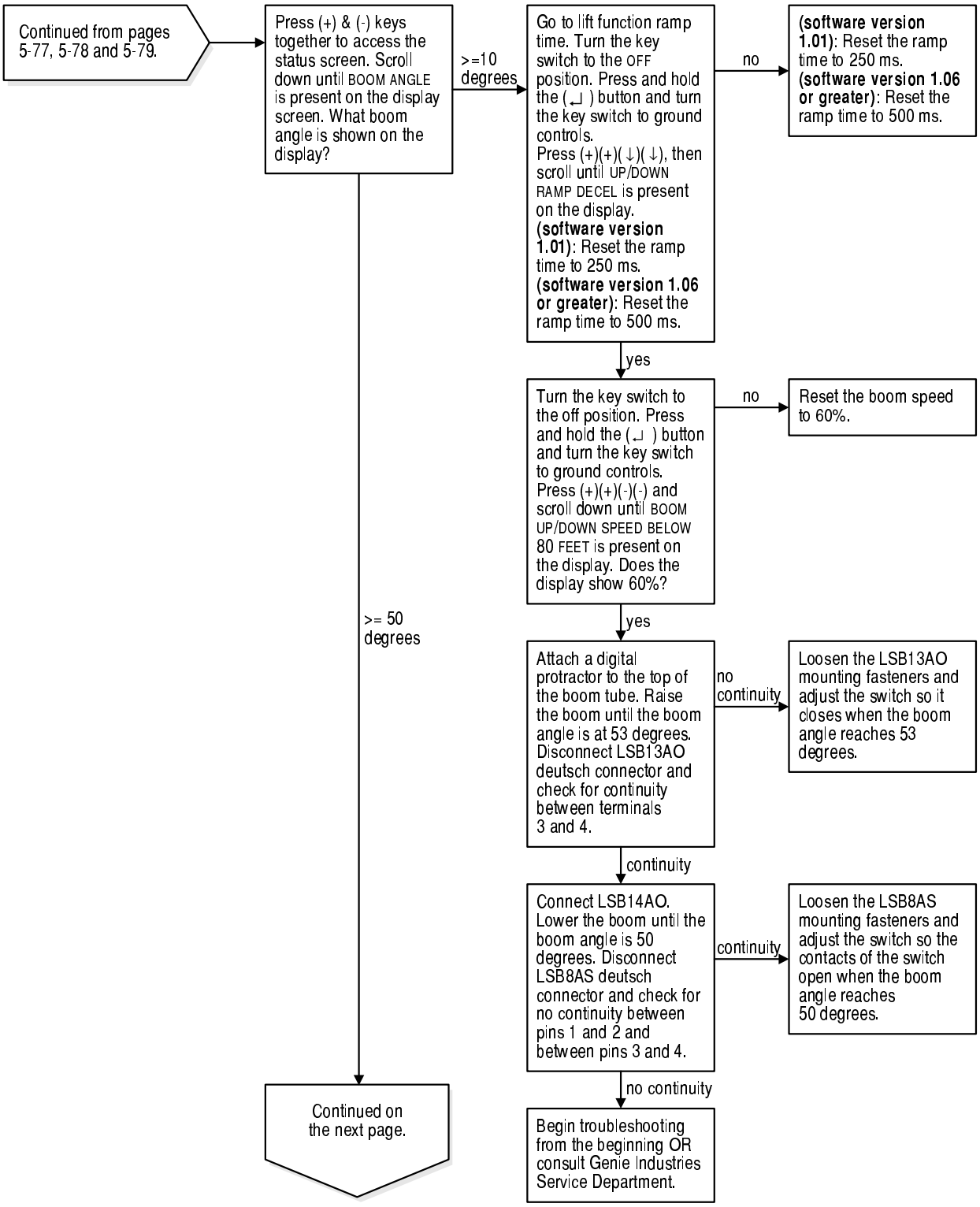

Continued from pages 5-77, 5-78 and 5-79.
Press (+) & (-) keys together to access the status screen. Scroll down until BOOM ANGLE is present on the display screen. What boom angle is shown on the display?
>=10 degrees
Go to lift function ramp time. Turn the key switch to the OFF position. Press and hold the (↵) button and turn the key switch to ground controls. Press (+)(+)(↓)(↓), then scroll until UP/DOWN RAMP DECEL is present on the display. (software version 1.01): Reset the ramp time to 250 ms. (software version 1.06 or greater): Reset the ramp time to 500 ms.
no
(software version 1.01): Reset the ramp time to 250 ms. (software version 1.06 or greater): Reset the ramp time to 500 ms.
yes
Turn the key switch to the off position. Press and hold the (↵) button and turn the key switch to ground controls. Press (+)(+)(-)(-) and scroll down until BOOM UP/DOWN SPEED BELOW 80 FEET is present on the display. Does the display show 60%?
no
Reset the boom speed to 60%.
yes
>= 50 degrees
Attach a digital protractor to the top of the boom tube. Raise the boom until the boom angle is at 53 degrees. Disconnect LSB13AO deutsch connector and check for continuity between terminals 3 and 4.
no continuity
Loosen the LSB13AO mounting fasteners and adjust the switch so it closes when the boom angle reaches 53 degrees.
continuity
Connect LSB14AO. Lower the boom until the boom angle is 50 degrees. Disconnect LSB8AS deutsch connector and check for no continuity between pins 1 and 2 and between pins 3 and 4.
continuity
Loosen the LSB8AS mounting fasteners and adjust the switch so the contacts of the switch open when the boom angle reaches 50 degrees.
no continuity
Begin troubleshooting from the beginning OR consult Genie Industries Service Department.
Continued on the next page.

CHART 19

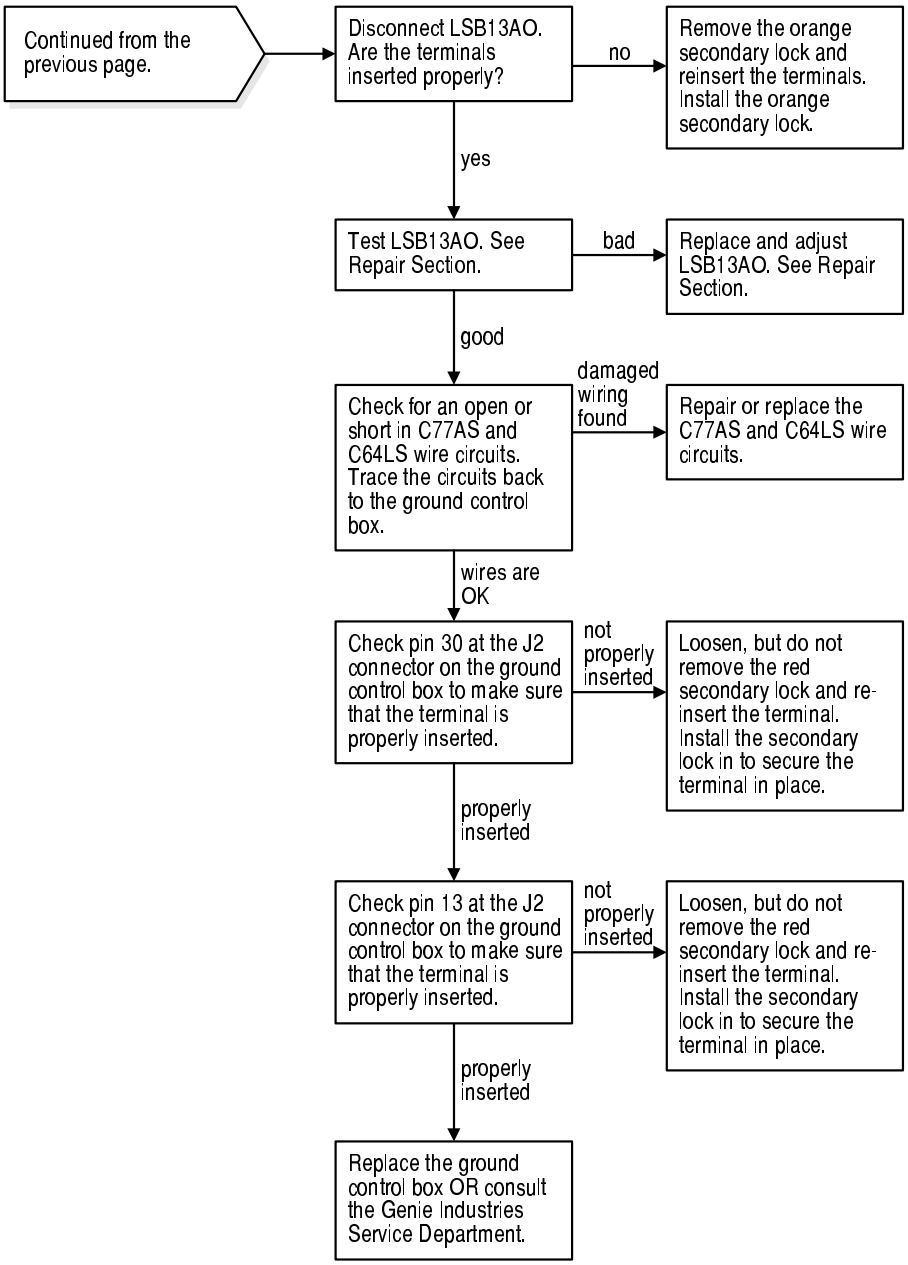

Continued from the previous page.
Disconnect LSB13AO. Are the terminals inserted properly?
no
Remove the orange secondary lock and reinsert the terminals. Install the orange secondary lock.
yes
Test LSB13AO. See Repair Section.
bad
Replace and adjust LSB13AO. See Repair Section.
good
Check for an open or short in C77AS and C64LS wire circuits. Trace the circuits back to the ground control box.
damaged wiring found
Repair or replace the C77AS and C64LS wire circuits.
wires are OK
Check pin 30 at the J2 connector on the ground control box to make sure that the terminal is properly inserted.
not properly inserted
Loosen, but do not remove the red secondary lock and re-insert the terminal. Install the secondary lock in to secure the terminal in place.
properly inserted
Check pin 13 at the J2 connector on the ground control box to make sure that the terminal is properly inserted.
not properly inserted
Loosen, but do not remove the red secondary lock and re-insert the terminal. Install the secondary lock in to secure the terminal in place.
properly inserted
Replace the ground control box OR consult the Genie Industries Service Department.

Chart 20

Boom Envelope Safety Switch Failure, S-100 and S-105 Models

Be sure all other functions operate normally.

Be sure the batteries are fully charged and properly connected.

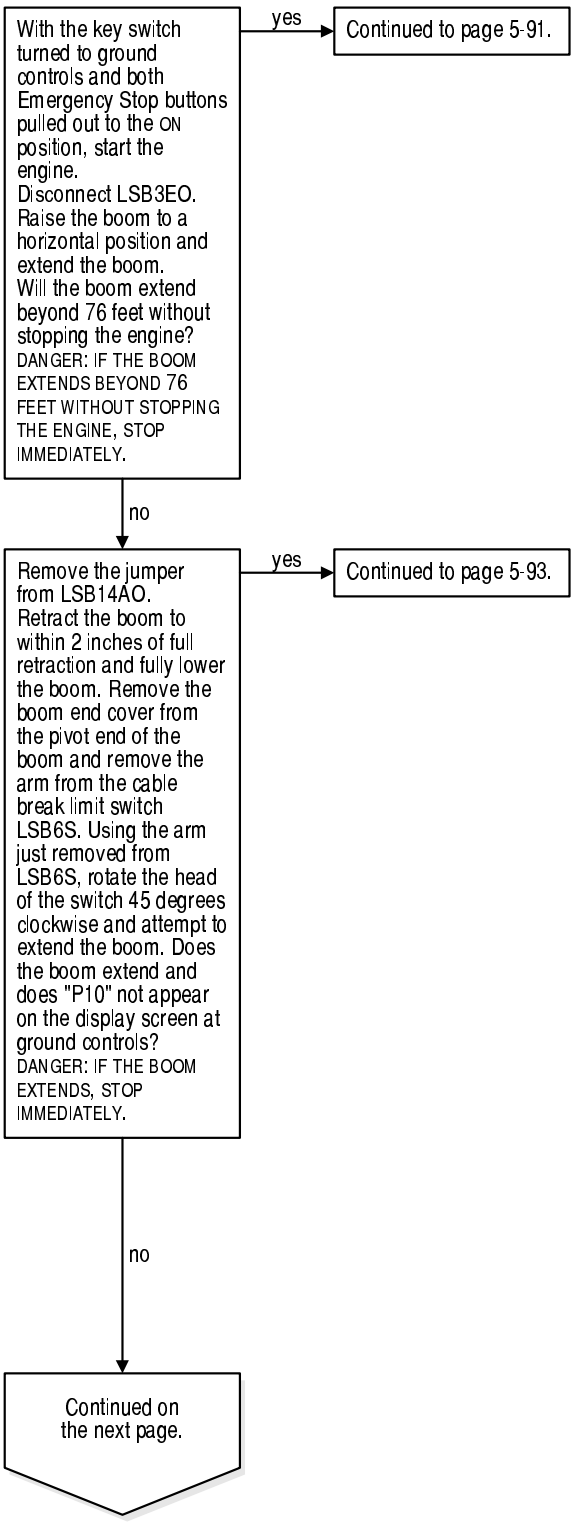

With the key switch turned to ground controls and both Emergency Stop buttons pulled out to the ON position, start the engine.
Disconnect LSB3EO.
Raise the boom to a horizontal position and extend the boom.
Will the boom extend beyond 76 feet without stopping the engine?
DANGER: IF THE BOOM EXTENDS BEYOND 76 FEET WITHOUT STOPPING THE ENGINE, STOP IMMEDIATELY.
yes
Continued to page 5-91.
no
Remove the jumper from LSB14AO.
Retract the boom to within 2 inches of full retraction and fully lower the boom. Remove the boom end cover from the pivot end of the boom and remove the arm from the cable break limit switch LSB6S. Using the arm just removed from LSB6S, rotate the head of the switch 45 degrees clockwise and attempt to extend the boom. Does the boom extend and does "P10" not appear on the display screen at ground controls?
DANGER: IF THE BOOM EXTENDS, STOP IMMEDIATELY.
yes
Continued to page 5-93.
no
Continued on the next page.

CHART 20

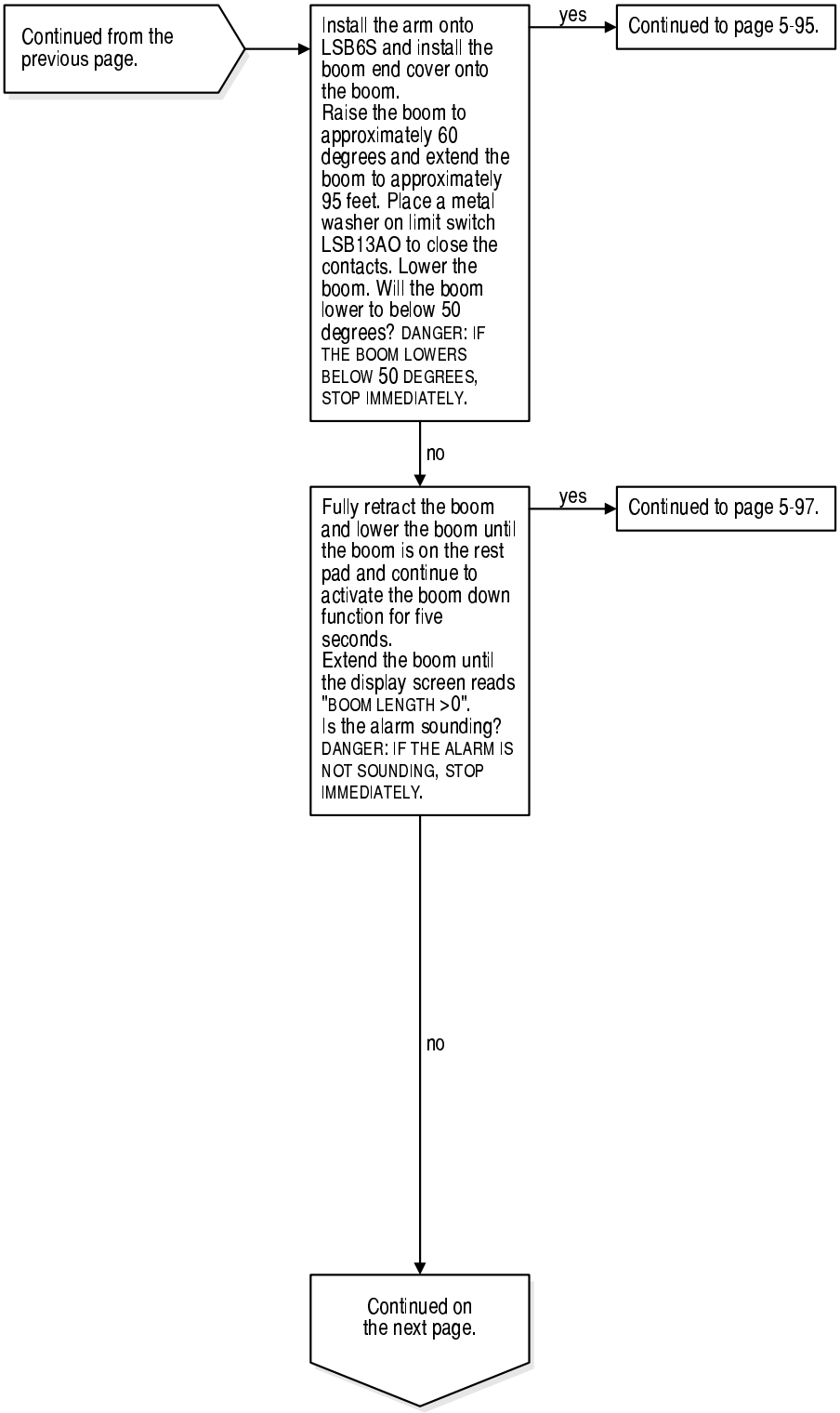

Continued from the previous page.
Install the arm onto LSB6S and install the boom end cover onto the boom.
Raise the boom to approximately 60 degrees and extend the boom to approximately 95 feet. Place a metal washer on limit switch LSB13AO to close the contacts. Lower the boom. Will the boom lower to below 50 degrees? DANGER: IF THE BOOM LOWERS BELOW 50 DEGREES, STOP IMMEDIATELY.
yes
Continued to page 5-95.
no
Fully retract the boom and lower the boom until the boom is on the rest pad and continue to activate the boom down function for five seconds.
Extend the boom until the display screen reads "BOOM LENGTH >0".
Is the alarm sounding? DANGER: IF THE ALARM IS NOT SOUNDING, STOP IMMEDIATELY.
yes
Continued to page 5-97.
no
Continued on the next page.

CHART 20

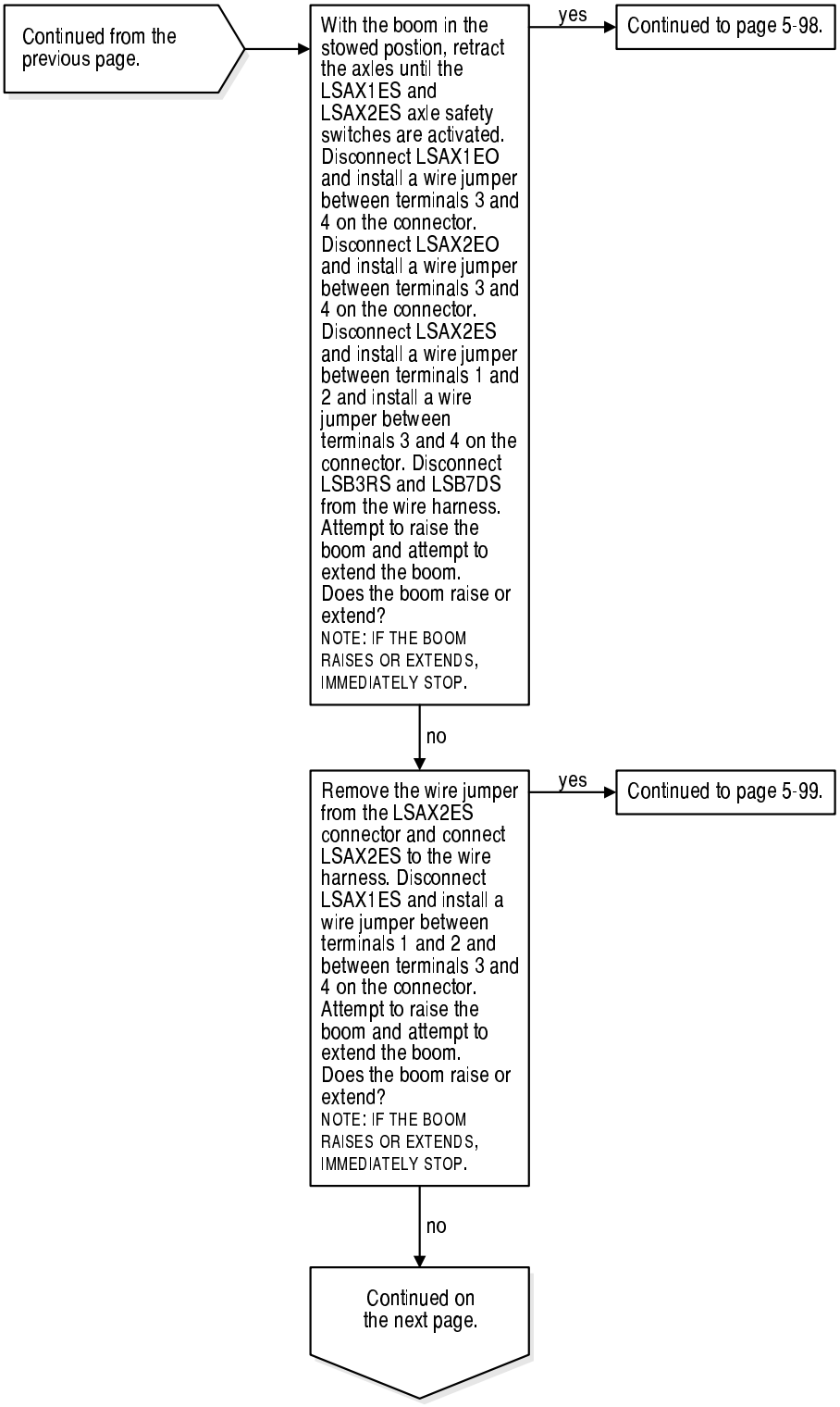

Continued from the previous page.
With the boom in the stowed postion, retract the axles until the LSAX1ES and LSAX2ES axle safety switches are activated. Disconnect LSAX1EO and install a wire jumper between terminals 3 and 4 on the connector. Disconnect LSAX2EO and install a wire jumper between terminals 3 and 4 on the connector. Disconnect LSAX2ES and install a wire jumper between terminals 1 and 2 and install a wire jumper between terminals 3 and 4 on the connector. Disconnect LSB3RS and LSB7DS from the wire harness. Attempt to raise the boom and attempt to extend the boom. Does the boom raise or extend?
NOTE: IF THE BOOM RAISES OR EXTENDS, IMMEDIATELY STOP.
yes
Continued to page 5-98.
no
Remove the wire jumper from the LSAX2ES connector and connect LSAX2ES to the wire harness. Disconnect LSAX1ES and install a wire jumper between terminals 1 and 2 and between terminals 3 and 4 on the connector. Attempt to raise the boom and attempt to extend the boom. Does the boom raise or extend?
NOTE: IF THE BOOM RAISES OR EXTENDS, IMMEDIATELY STOP.
yes
Continued to page 5-99.
no
Continued on the next page.

CHART 20

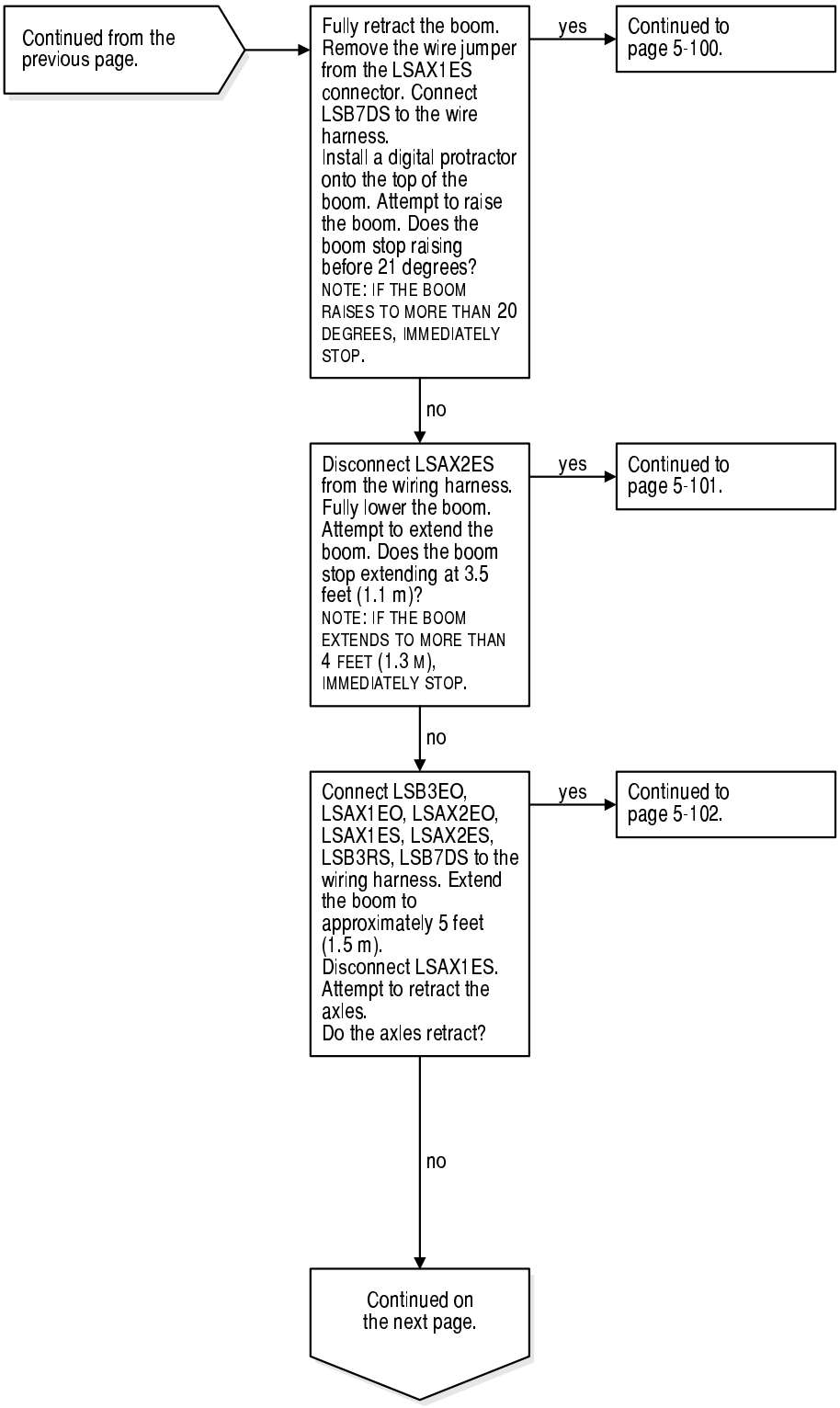

Continued from the previous page.
Fully retract the boom. Remove the wire jumper from the LSAX1ES connector. Connect LSB7DS to the wire harness.
Install a digital protractor onto the top of the boom. Attempt to raise the boom. Does the boom stop raising before 21 degrees?
NOTE: IF THE BOOM RAISES TO MORE THAN 20 DEGREES, IMMEDIATELY STOP.
yes
Continued to page 5-100.
no
Disconnect LSAX2ES from the wiring harness. Fully lower the boom. Attempt to extend the boom. Does the boom stop extending at 3.5 feet (1.1 m)?
NOTE: IF THE BOOM EXTENDS TO MORE THAN 4 FEET (1.3 M), IMMEDIATELY STOP.
yes
Continued to page 5-101.
no
Connect LSB3EO, LSAX1EO, LSAX2EO, LSAX1ES, LSAX2ES, LSB3RS, LSB7DS to the wiring harness. Extend the boom to approximately 5 feet (1.5 m).
Disconnect LSAX1ES. Attempt to retract the axles.
Do the axles retract?
yes
Continued to page 5-102.
no
Continued on the next page.

CHART 20

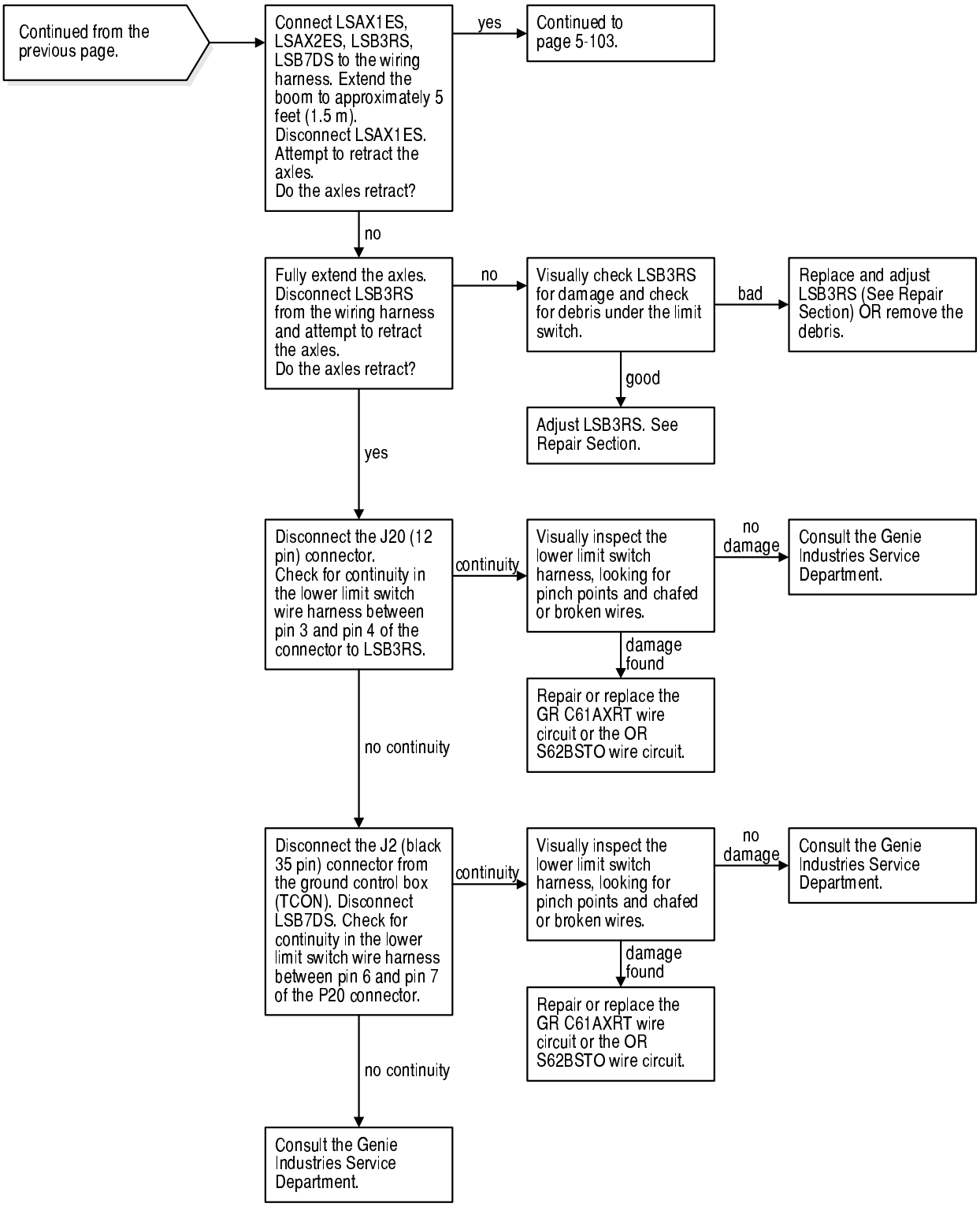

Continued from the previous page.
Connect LSAX1ES, LSAX2ES, LSB3RS, LSB7DS to the wiring harness. Extend the boom to approximately 5 feet (1.5 m). Disconnect LSAX1ES. Attempt to retract the axles. Do the axles retract?
yes
Continued to page 5-103.
no
Fully extend the axles. Disconnect LSB3RS from the wiring harness and attempt to retract the axles. Do the axles retract?
no
Visually check LSB3RS for damage and check for debris under the limit switch.
bad
Replace and adjust LSB3RS (See Repair Section) OR remove the debris.
good
Adjust LSB3RS. See Repair Section.
yes
Disconnect the J20 (12 pin) connector. Check for continuity in the lower limit switch wire harness between pin 3 and pin 4 of the connector to LSB3RS.
continuity
Visually inspect the lower limit switch harness, looking for pinch points and chafed or broken wires.
no damage
Consult the Genie Industries Service Department.
damage found
Repair or replace the GR C61AXRT wire circuit or the OR S62BSTO wire circuit.
no continuity
Disconnect the J2 (black 35 pin) connector from the ground control box (TCON). Disconnect LSB7DS. Check for continuity in the lower limit switch wire harness between pin 6 and pin 7 of the P20 connector.
continuity
Visually inspect the lower limit switch harness, looking for pinch points and chafed or broken wires.
no damage
Consult the Genie Industries Service Department.
damage found
Repair or replace the GR C61AXRT wire circuit or the OR S62BSTO wire circuit.
no continuity
Consult the Genie Industries Service Department.

CHART 20

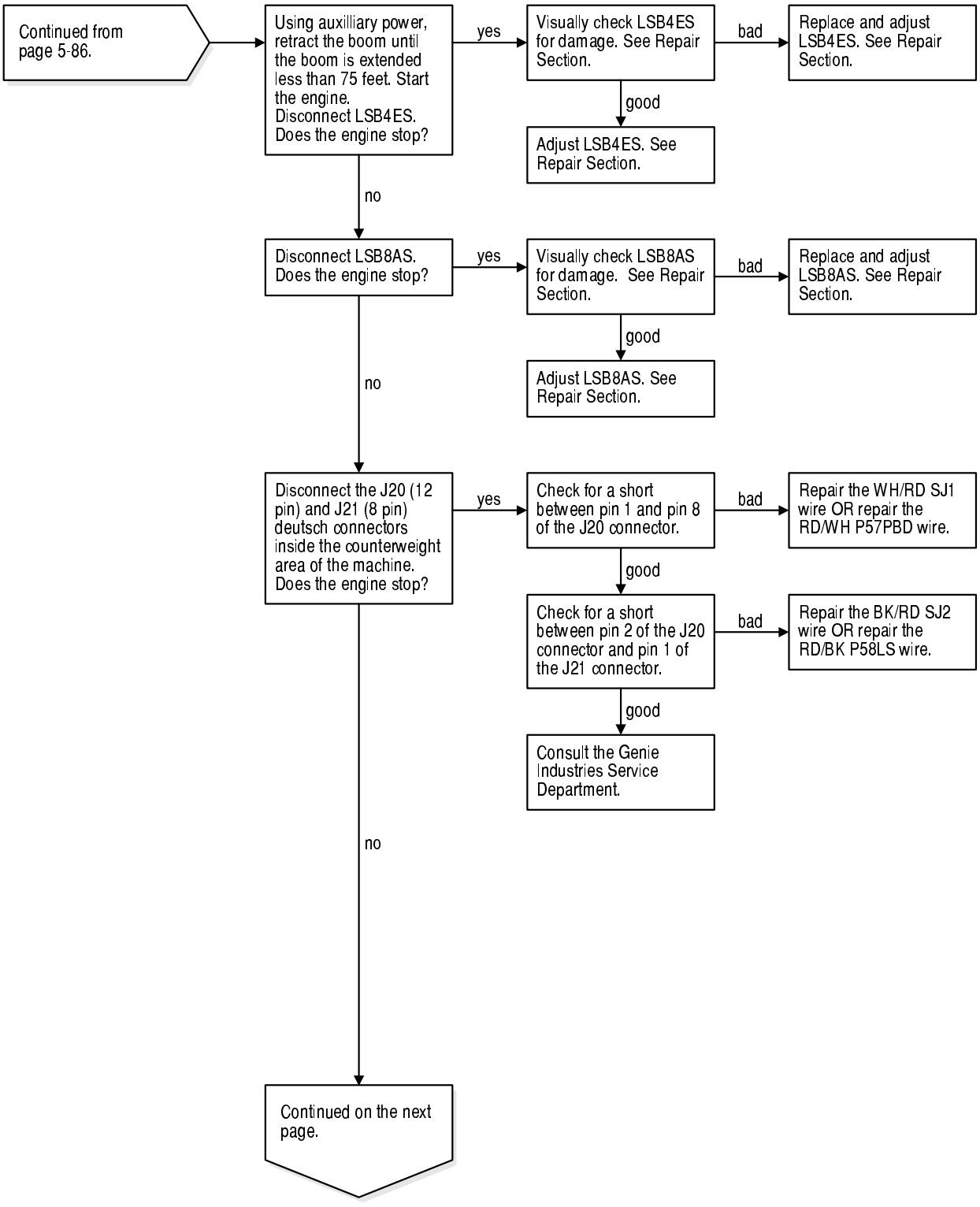

Continued from page 5-86.
Using auxilliary power, retract the boom until the boom is extended less than 75 feet. Start the engine. Disconnect LSB4ES. Does the engine stop?
yes
Visually check LSB4ES for damage. See Repair Section.
bad
Replace and adjust LSB4ES. See Repair Section.
good
Adjust LSB4ES. See Repair Section.
no
Disconnect LSB8AS. Does the engine stop?
yes
Visually check LSB8AS for damage. See Repair Section.
bad
Replace and adjust LSB8AS. See Repair Section.
good
Adjust LSB8AS. See Repair Section.
no
Disconnect the J20 (12 pin) and J21 (8 pin) deutsch connectors inside the counterweight area of the machine. Does the engine stop?
yes
Check for a short between pin 1 and pin 8 of the J20 connector.
bad
Repair the WH/RD SJ1 wire OR repair the RD/WH P57PBD wire.
good
Check for a short between pin 2 of the J20 connector and pin 1 of the J21 connector.
bad
Repair the BK/RD SJ2 wire OR repair the RD/BK P58LS wire.
good
Consult the Genie Industries Service Department.
no
Continued on the next page.

CHART 20

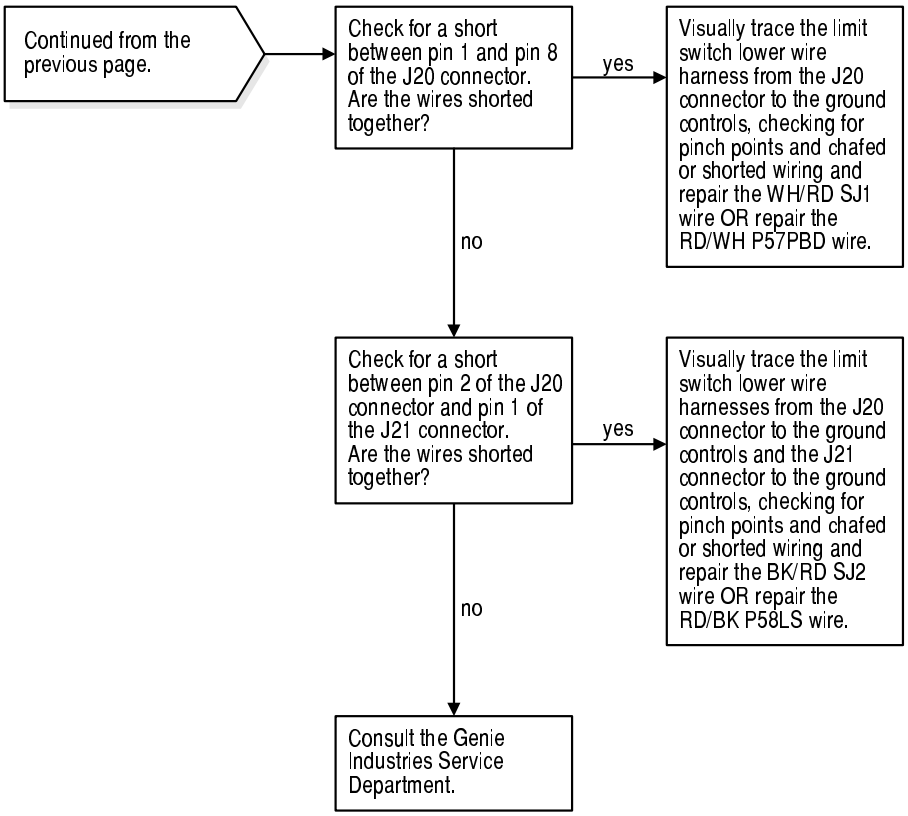

Continued from the previous page.
Check for a short between pin 1 and pin 8 of the J20 connector. Are the wires shorted together?
yes
Visually trace the limit switch lower wire harness from the J20 connector to the ground controls, checking for pinch points and chafed or shorted wiring and repair the WH/RD SJ1 wire OR repair the RD/WH P57PBD wire.
no
Check for a short between pin 2 of the J20 connector and pin 1 of the J21 connector. Are the wires shorted together?
yes
Visually trace the limit switch lower wire harnesses from the J20 connector to the ground controls and the J21 connector to the ground controls, checking for pinch points and chafed or shorted wiring and repair the BK/RD SJ2 wire OR repair the RD/BK P58LS wire.
no
Consult the Genie Industries Service Department.

CHART 20

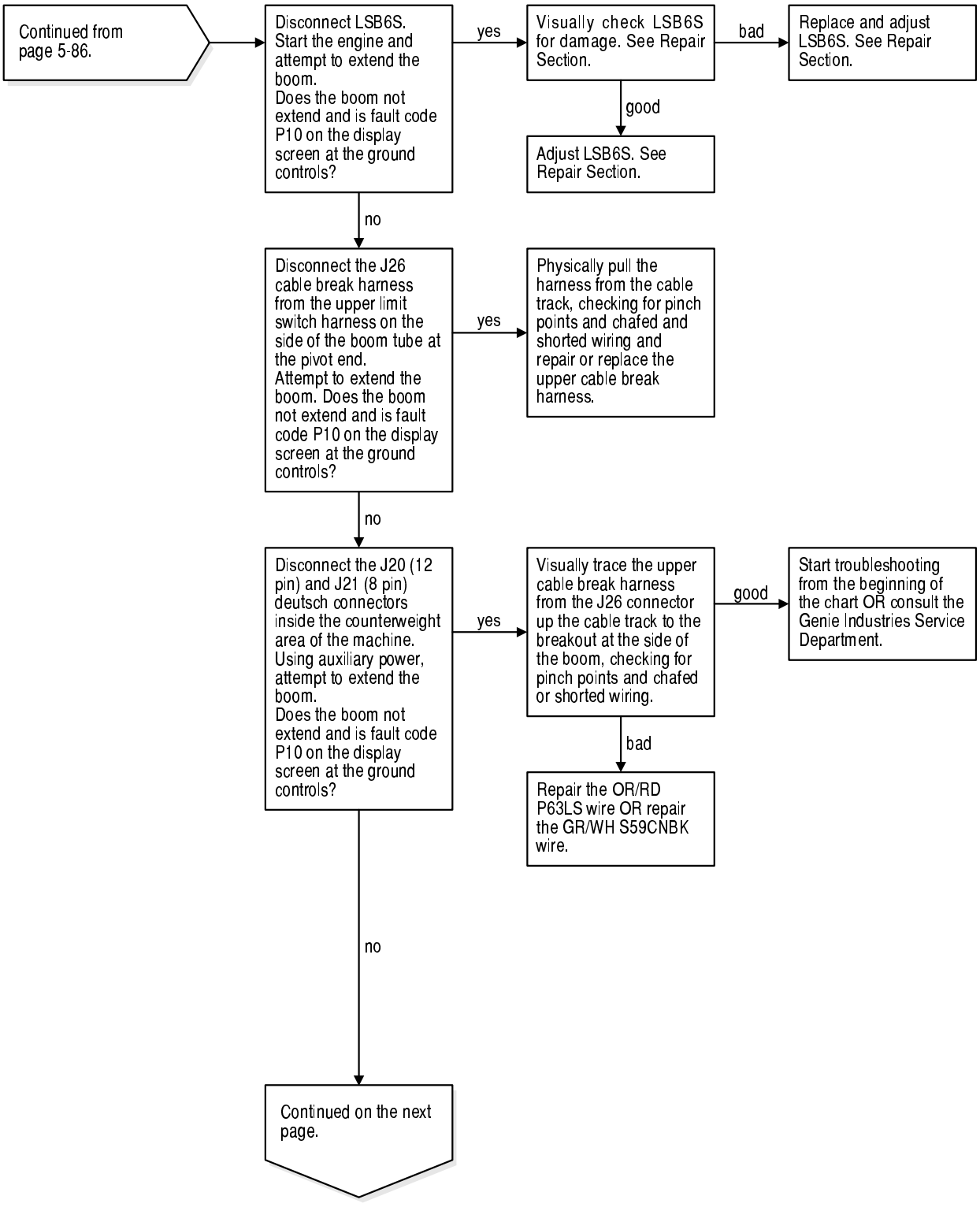

Continued from page 5-86.
Disconnect LSB6S. Start the engine and attempt to extend the boom. Does the boom not extend and is fault code P10 on the display screen at the ground controls?
yes
Visually check LSB6S for damage. See Repair Section.
bad
Replace and adjust LSB6S. See Repair Section.
good
Adjust LSB6S. See Repair Section.
no
Disconnect the J26 cable break harness from the upper limit switch harness on the side of the boom tube at the pivot end. Attempt to extend the boom. Does the boom not extend and is fault code P10 on the display screen at the ground controls?
yes
Physically pull the harness from the cable track, checking for pinch points and chafed and shorted wiring and repair or replace the upper cable break harness.
no
Disconnect the J20 (12 pin) and J21 (8 pin) deutsch connectors inside the counterweight area of the machine. Using auxiliary power, attempt to extend the boom. Does the boom not extend and is fault code P10 on the display screen at the ground controls?
yes
Visually trace the upper cable break harness from the J26 connector up the cable track to the breakout at the side of the boom, checking for pinch points and chafed or shorted wiring.
good
Start troubleshooting from the beginning of the chart OR consult the Genie Industries Service Department.
bad
Repair the OR/RD P63LS wire OR repair the GR/WH S59CNBK wire.
no
Continued on the next page.

CHART 20

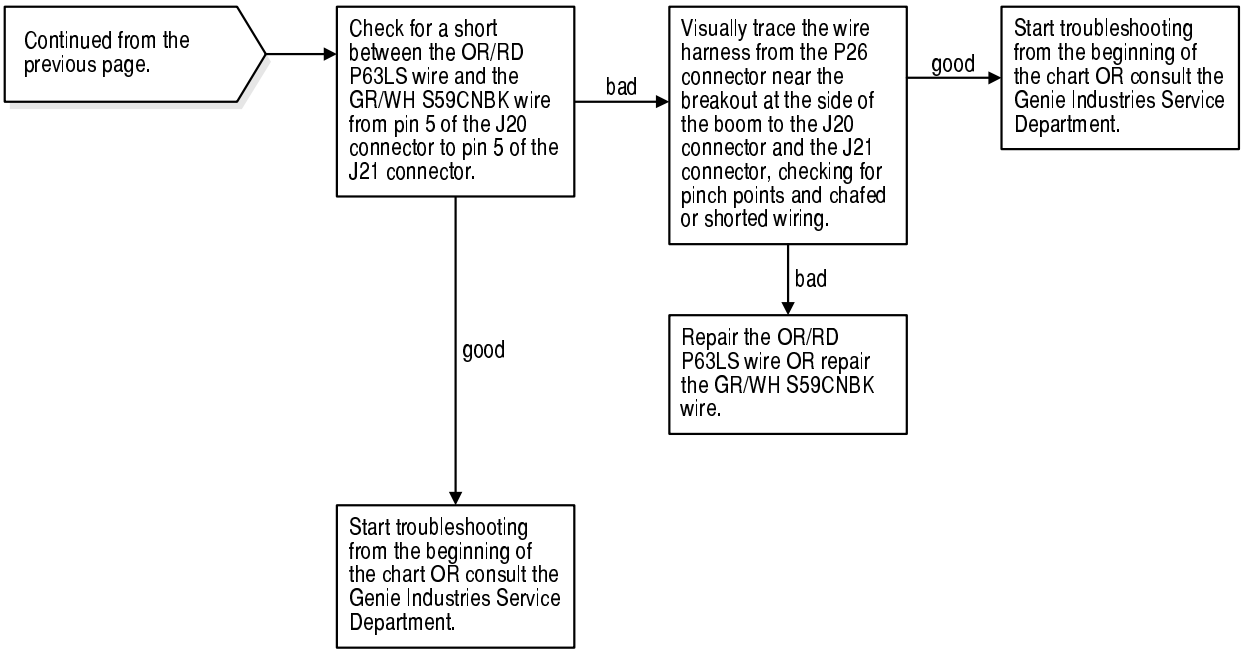

Continued from the previous page.
Check for a short between the OR/RD P63LS wire and the GR/WH S59CNBK wire from pin 5 of the J20 connector to pin 5 of the J21 connector.
bad
Visually trace the wire harness from the P26 connector near the breakout at the side of the boom to the J20 connector and the J21 connector, checking for pinch points and chafed or shorted wiring.
good
Start troubleshooting from the beginning of the chart OR consult the Genie Industries Service Department.
bad
Repair the OR/RD P63LS wire OR repair the GR/WH S59CNBK wire.
good
Start troubleshooting from the beginning of the chart OR consult the Genie Industries Service Department.

CHART 20

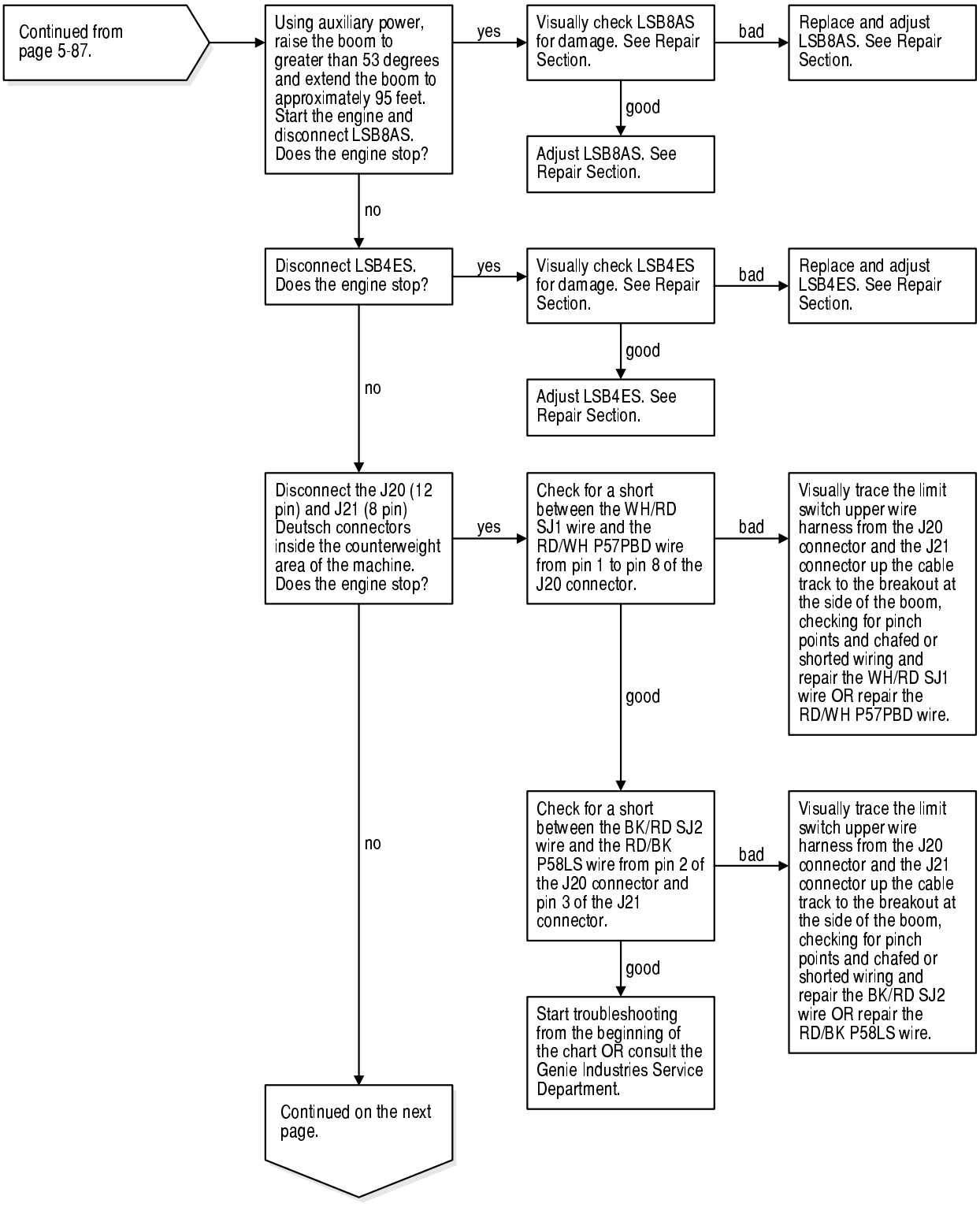

Continued from page 5-87.
Using auxiliary power, raise the boom to greater than 53 degrees and extend the boom to approximately 95 feet. Start the engine and disconnect LSB8AS. Does the engine stop?
yes
Visually check LSB8AS for damage. See Repair Section.
bad
Replace and adjust LSB8AS. See Repair Section.
good
Adjust LSB8AS. See Repair Section.
no
Disconnect LSB4ES. Does the engine stop?
yes
Visually check LSB4ES for damage. See Repair Section.
bad
Replace and adjust LSB4ES. See Repair Section.
good
Adjust LSB4ES. See Repair Section.
no
Disconnect the J20 (12 pin) and J21 (8 pin) Deutsch connectors inside the counterweight area of the machine. Does the engine stop?
yes
Check for a short between the WH/RD SJ1 wire and the RD/WH P57PBD wire from pin 1 to pin 8 of the J20 connector.
bad
Visually trace the limit switch upper wire harness from the J20 connector and the J21 connector up the cable track to the breakout at the side of the boom, checking for pinch points and chafed or shorted wiring and repair the WH/RD SJ1 wire OR repair the RD/WH P57PBD wire.
good
Check for a short between the BK/RD SJ2 wire and the RD/BK P58LS wire from pin 2 of the J20 connector and pin 3 of the J21 connector.
bad
Visually trace the limit switch upper wire harness from the J20 connector and the J21 connector up the cable track to the breakout at the side of the boom, checking for pinch points and chafed or shorted wiring and repair the BK/RD SJ2 wire OR repair the RD/BK P58LS wire.
good
Start troubleshooting from the beginning of the chart OR consult the Genie Industries Service Department.
no
Continued on the next page.

CHART 20

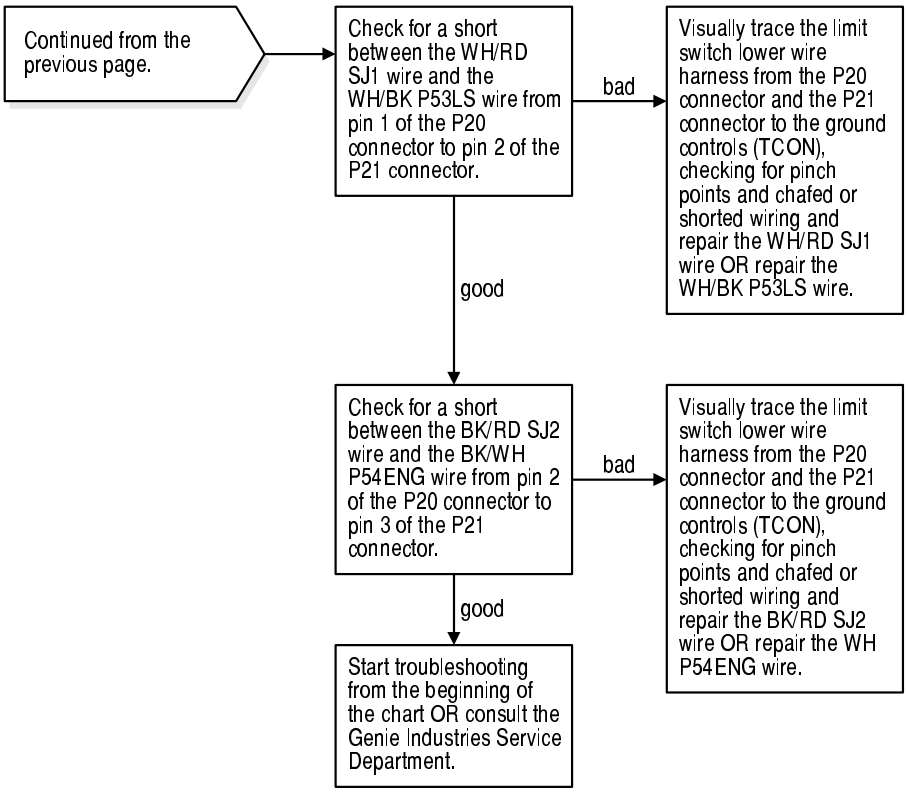

Continued from the previous page.
Check for a short between the WH/RD SJ1 wire and the WH/BK P53LS wire from pin 1 of the P20 connector to pin 2 of the P21 connector.
bad
Visually trace the limit switch lower wire harness from the P20 connector and the P21 connector to the ground controls (TCON), checking for pinch points and chafed or shorted wiring and repair the WH/RD SJ1 wire OR repair the WH/BK P53LS wire.
good
Check for a short between the BK/RD SJ2 wire and the BK/WH P54ENG wire from pin 2 of the P20 connector to pin 3 of the P21 connector.
bad
Visually trace the limit switch lower wire harness from the P20 connector and the P21 connector to the ground controls (TCON), checking for pinch points and chafed or shorted wiring and repair the BK/RD SJ2 wire OR repair the WH P54ENG wire.
good
Start troubleshooting from the beginning of the chart OR consult the Genie Industries Service Department.

CHART 20

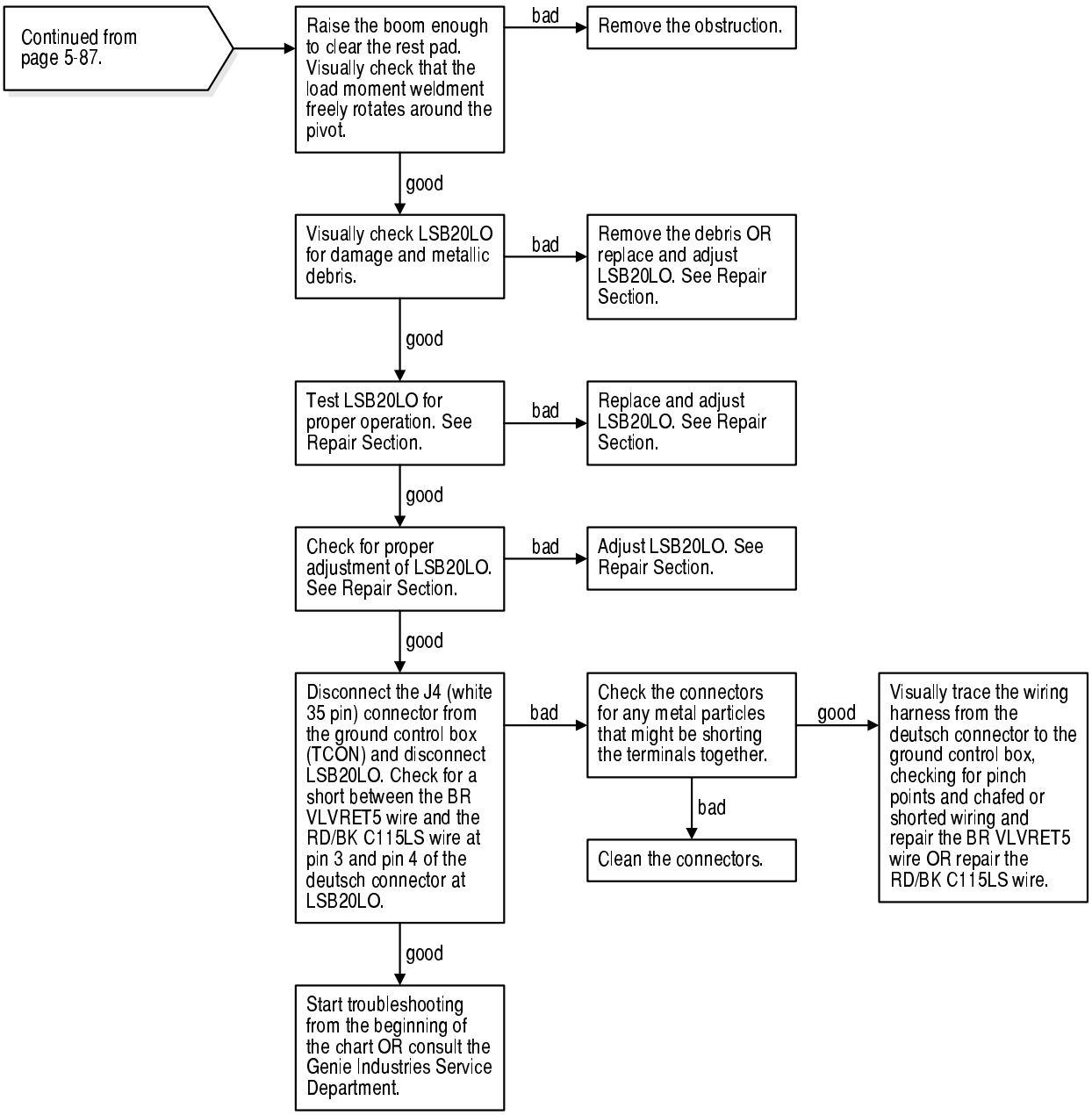

Continued from page 5-87.
Raise the boom enough to clear the rest pad. Visually check that the load moment weldment freely rotates around the pivot.
bad
Remove the obstruction.
good
Visually check LSB20LO for damage and metallic debris.
bad
Remove the debris OR replace and adjust LSB20LO. See Repair Section.
good
Test LSB20LO for proper operation. See Repair Section.
bad
Replace and adjust LSB20LO. See Repair Section.
good
Check for proper adjustment of LSB20LO. See Repair Section.
bad
Adjust LSB20LO. See Repair Section.
good
Disconnect the J4 (white 35 pin) connector from the ground control box (TCON) and disconnect LSB20LO. Check for a short between the BR VLVRET5 wire and the RD/BK C115LS wire at pin 3 and pin 4 of the deutsch connector at LSB20LO.
bad
Check the connectors for any metal particles that might be shorting the terminals together.
good
Visually trace the wiring harness from the deutsch connector to the ground control box, checking for pinch points and chafed or shorted wiring and repair the BR VLVRET5 wire OR repair the RD/BK C115LS wire.
bad
Clean the connectors.
good
Start troubleshooting from the beginning of the chart OR consult the Genie Industries Service Department.

CHART 20

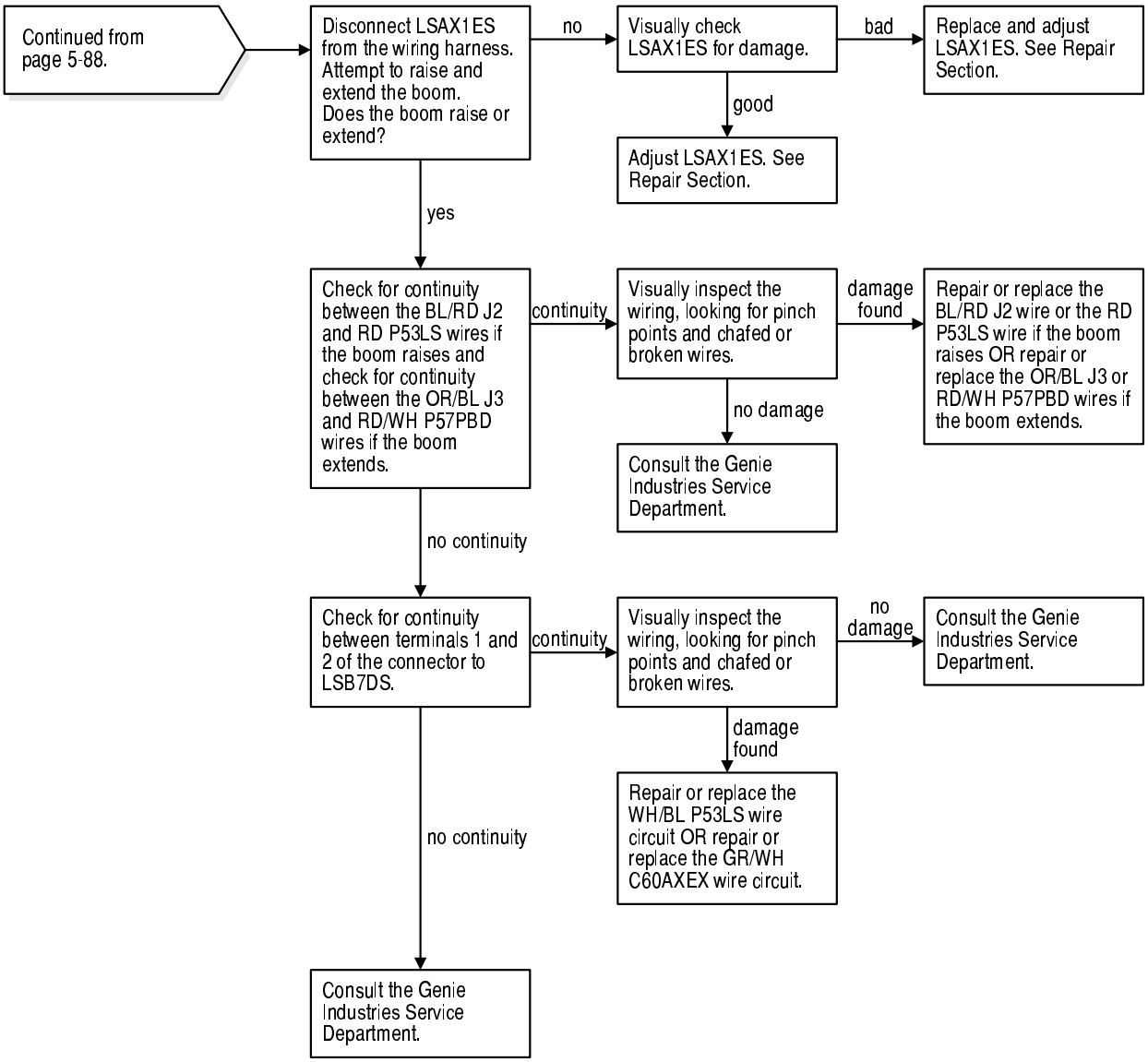

Continued from page 5-88.
Disconnect LSAX1ES from the wiring harness. Attempt to raise and extend the boom. Does the boom raise or extend?
no
Visually check LSAX1ES for damage.
bad
Replace and adjust LSAX1ES. See Repair Section.
good
Adjust LSAX1ES. See Repair Section.
yes
Check for continuity between the BL/RD J2 and RD P53LS wires if the boom raises and check for continuity between the OR/BL J3 and RD/WH P57PBD wires if the boom extends.
continuity
Visually inspect the wiring, looking for pinch points and chafed or broken wires.
damage found
Repair or replace the BL/RD J2 wire or the RD P53LS wire if the boom raises OR repair or replace the OR/BL J3 or RD/WH P57PBD wires if the boom extends.
no damage
Consult the Genie Industries Service Department.
no continuity
Check for continuity between terminals 1 and 2 of the connector to LSB7DS.
continuity
Visually inspect the wiring, looking for pinch points and chafed or broken wires.
no damage
Consult the Genie Industries Service Department.
damage found
Repair or replace the WH/BL P53LS wire circuit OR repair or replace the GR/WH C60AXEX wire circuit.
no continuity
Consult the Genie Industries Service Department.

CHART 20

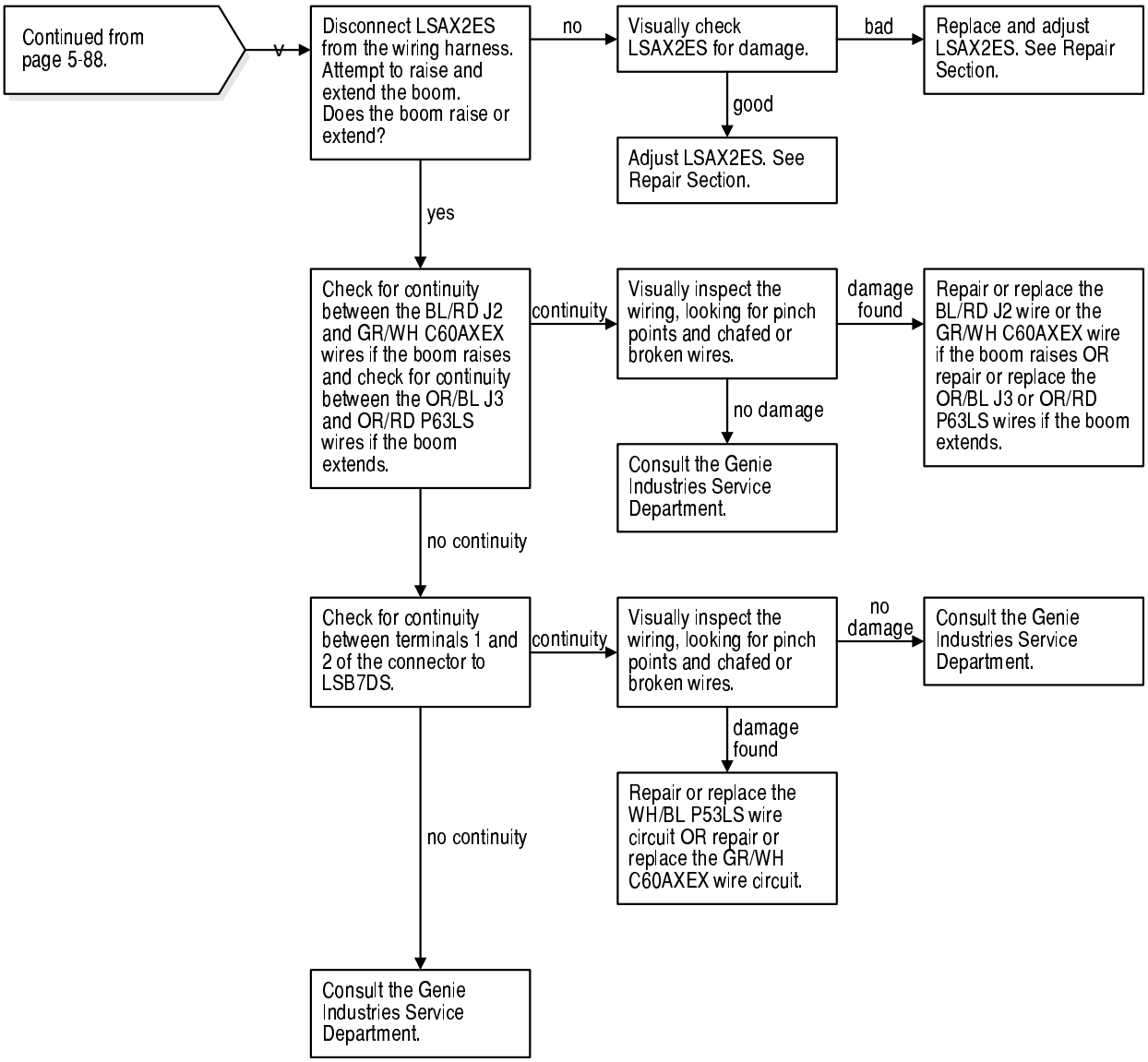

Continued from page 5-88.
Disconnect LSAX2ES from the wiring harness. Attempt to raise and extend the boom. Does the boom raise or extend?
no
Visually check LSAX2ES for damage.
bad
Replace and adjust LSAX2ES. See Repair Section.
good
Adjust LSAX2ES. See Repair Section.
yes
Check for continuity between the BL/RD J2 and GR/WH C60AXEX wires if the boom raises and check for continuity between the OR/BL J3 and OR/RD P63LS wires if the boom extends.
continuity
Visually inspect the wiring, looking for pinch points and chafed or broken wires.
damage found
Repair or replace the BL/RD J2 wire or the GR/WH C60AXEX wire if the boom raises OR repair or replace the OR/BL J3 or OR/RD P63LS wires if the boom extends.
no damage
Consult the Genie Industries Service Department.
no continuity
Check for continuity between terminals 1 and 2 of the connector to LSB7DS.
continuity
Visually inspect the wiring, looking for pinch points and chafed or broken wires.
no damage
Consult the Genie Industries Service Department.
damage found
Repair or replace the WH/BL P53LS wire circuit OR repair or replace the GR/WH C60AXEX wire circuit.
no continuity
Consult the Genie Industries Service Department.

CHART 20

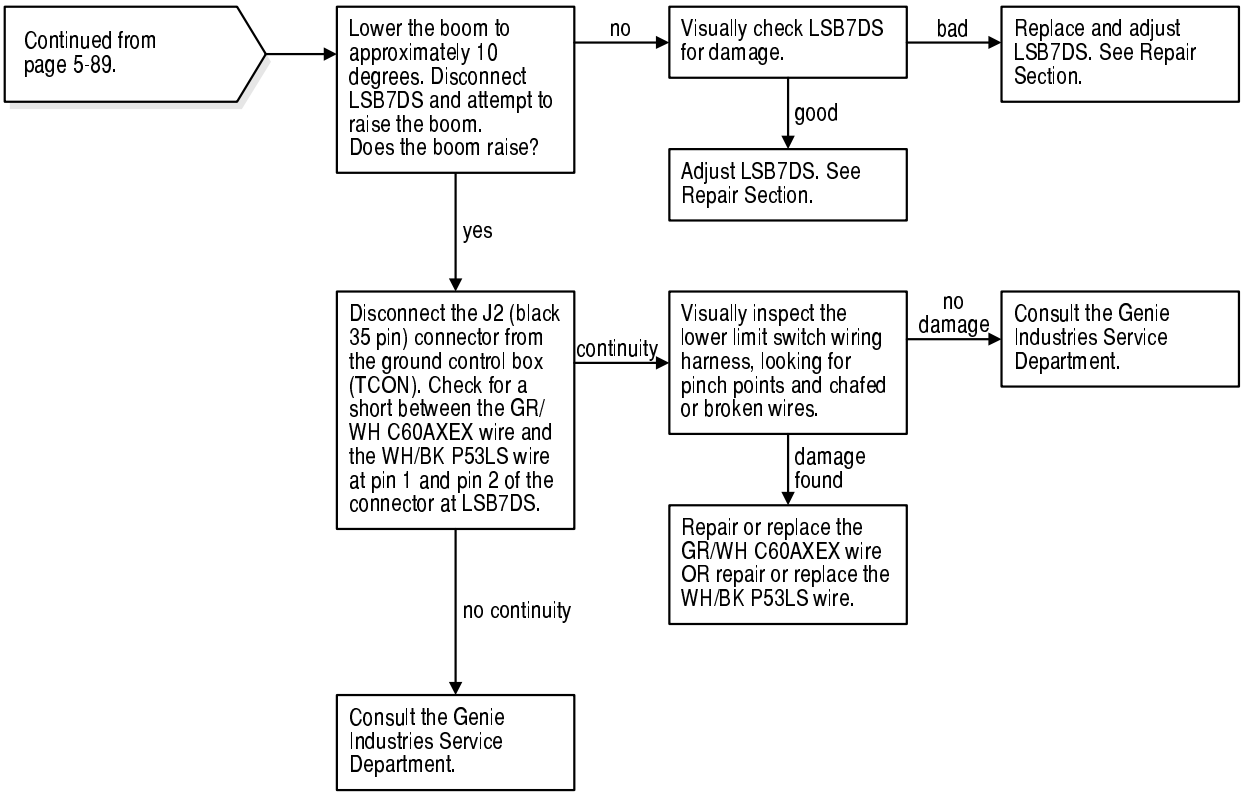

Continued from page 5-89.
Lower the boom to approximately 10 degrees. Disconnect LSB7DS and attempt to raise the boom. Does the boom raise?
no
Visually check LSB7DS for damage.
bad
Replace and adjust LSB7DS. See Repair Section.
good
Adjust LSB7DS. See Repair Section.
yes
Disconnect the J2 (black 35 pin) connector from the ground control box (TCON). Check for a short between the GR/WH C60AXEX wire and the WH/BK P53LS wire at pin 1 and pin 2 of the connector at LSB7DS.
continuity
Visually inspect the lower limit switch wiring harness, looking for pinch points and chafed or broken wires.
no damage
Consult the Genie Industries Service Department.
damage found
Repair or replace the GR/WH C60AXEX wire OR repair or replace the WH/BK P53LS wire.
no continuity
Consult the Genie Industries Service Department.

CHART 20

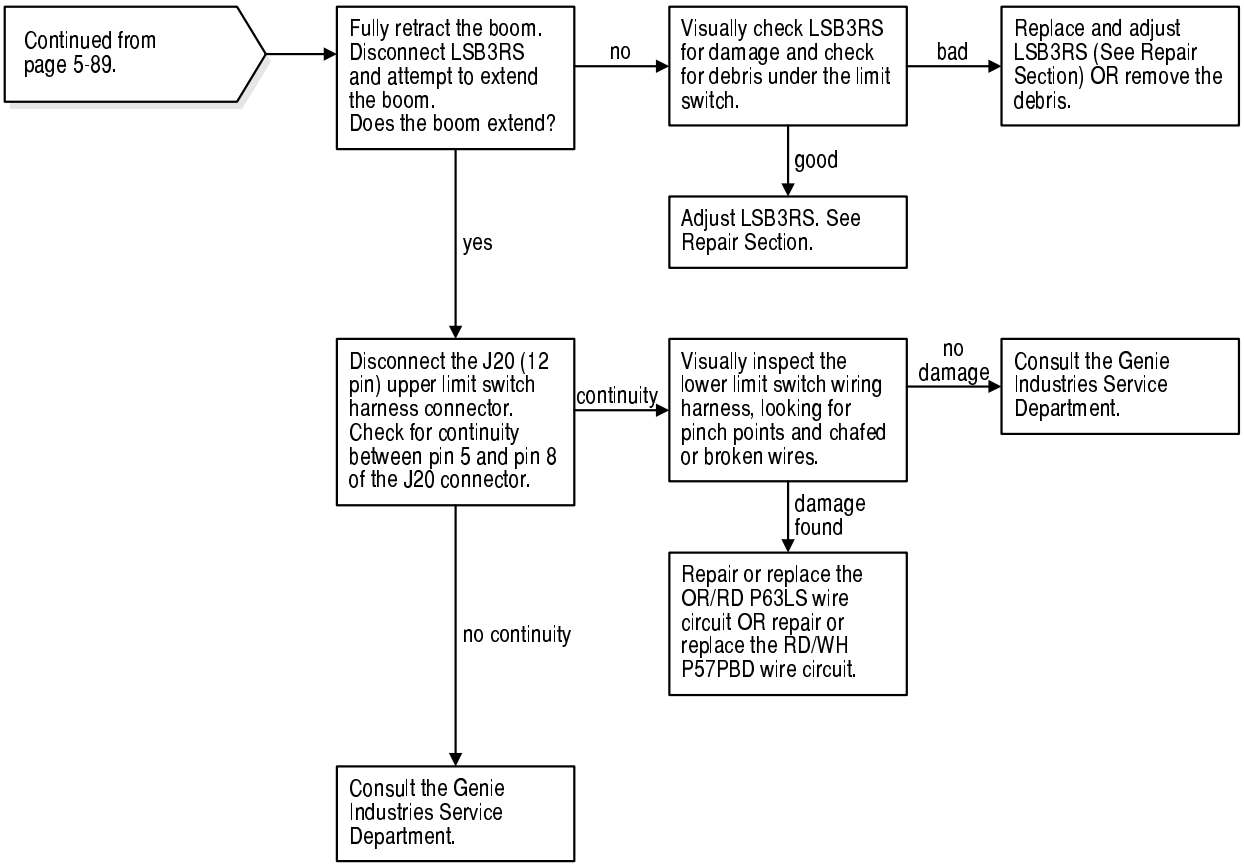

Continued from page 5-89.
Fully retract the boom. Disconnect LSB3RS and attempt to extend the boom. Does the boom extend?
no
Visually check LSB3RS for damage and check for debris under the limit switch.
bad
Replace and adjust LSB3RS (See Repair Section) OR remove the debris.
good
Adjust LSB3RS. See Repair Section.
yes
Disconnect the J20 (12 pin) upper limit switch harness connector. Check for continuity between pin 5 and pin 8 of the J20 connector.
continuity
Visually inspect the lower limit switch wiring harness, looking for pinch points and chafed or broken wires.
no damage
Consult the Genie Industries Service Department.
damage found
Repair or replace the OR/RD P63LS wire circuit OR repair or replace the RD/WH P57PBD wire circuit.
no continuity
Consult the Genie Industries Service Department.

CHART 20

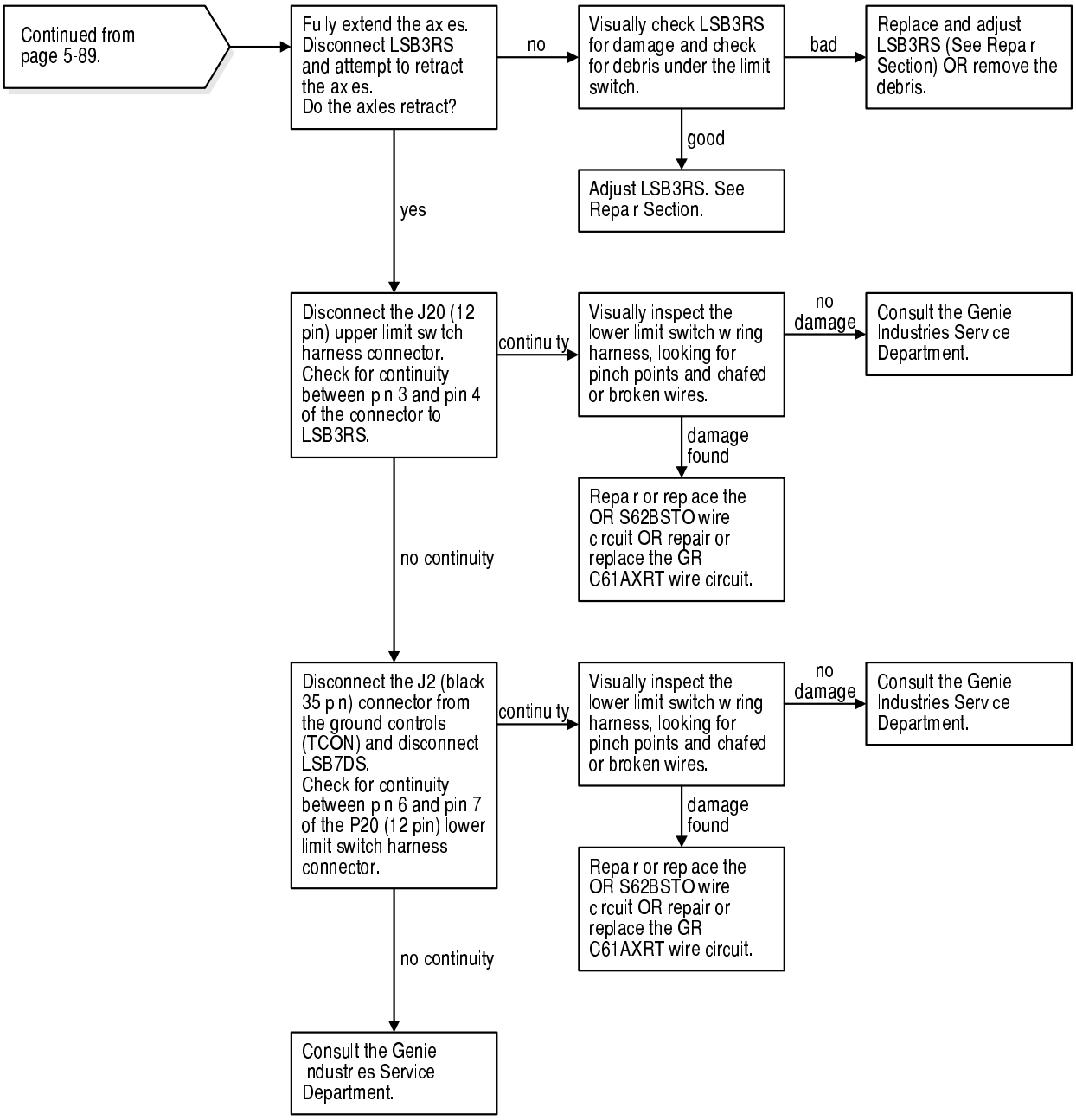

Continued from page 5-89.
Fully extend the axles. Disconnect LSB3RS and attempt to retract the axles. Do the axles retract?
no
Visually check LSB3RS for damage and check for debris under the limit switch.
bad
Replace and adjust LSB3RS (See Repair Section) OR remove the debris.
good
Adjust LSB3RS. See Repair Section.
yes
Disconnect the J20 (12 pin) upper limit switch harness connector. Check for continuity between pin 3 and pin 4 of the connector to LSB3RS.
continuity
Visually inspect the lower limit switch wiring harness, looking for pinch points and chafed or broken wires.
no damage
Consult the Genie Industries Service Department.
damage found
Repair or replace the OR S62BSTO wire circuit OR repair or replace the GR C61AXRT wire circuit.
no continuity
Disconnect the J2 (black 35 pin) connector from the ground controls (TCON) and disconnect LSB7DS. Check for continuity between pin 6 and pin 7 of the P20 (12 pin) lower limit switch harness connector.
continuity
Visually inspect the lower limit switch wiring harness, looking for pinch points and chafed or broken wires.
no damage
Consult the Genie Industries Service Department.
damage found
Repair or replace the OR S62BSTO wire circuit OR repair or replace the GR C61AXRT wire circuit.
no continuity
Consult the Genie Industries Service Department.

CHART 20

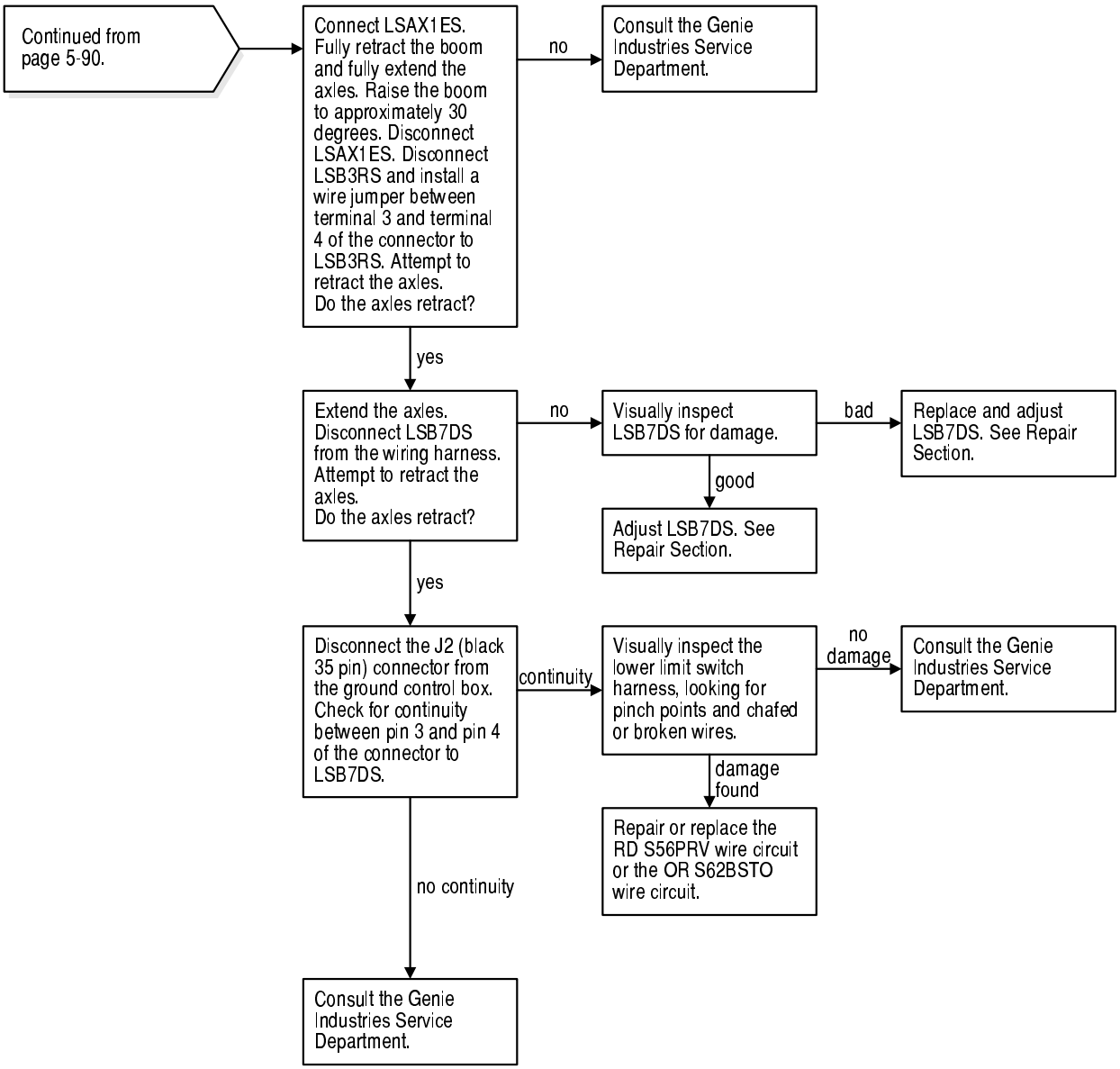

Continued from page 5-90.
Connect LSAX1 ES. Fully retract the boom and fully extend the axles. Raise the boom to approximately 30 degrees. Disconnect LSAX1 ES. Disconnect LSB3RS and install a wire jumper between terminal 3 and terminal 4 of the connector to LSB3RS. Attempt to retract the axles. Do the axles retract?
no
Consult the Genie Industries Service Department.
yes
Extend the axles. Disconnect LSB7DS from the wiring harness. Attempt to retract the axles. Do the axles retract?
no
Visually inspect LSB7DS for damage.
bad
Replace and adjust LSB7DS. See Repair Section.
good
Adjust LSB7DS. See Repair Section.
yes
Disconnect the J2 (black 35 pin) connector from the ground control box. Check for continuity between pin 3 and pin 4 of the connector to LSB7DS.
continuity
Visually inspect the lower limit switch harness, looking for pinch points and chafed or broken wires.
no damage
Consult the Genie Industries Service Department.
damage found
Repair or replace the RD S56PRV wire circuit or the OR S62BSTO wire circuit.
no continuity
Consult the Genie Industries Service Department.

Chart 21

Boom Envelope Safety Switch Failure, S-120 and S-125 Models

Be sure all other functions operate normally.

Be sure the batteries are fully charged and properly connected.

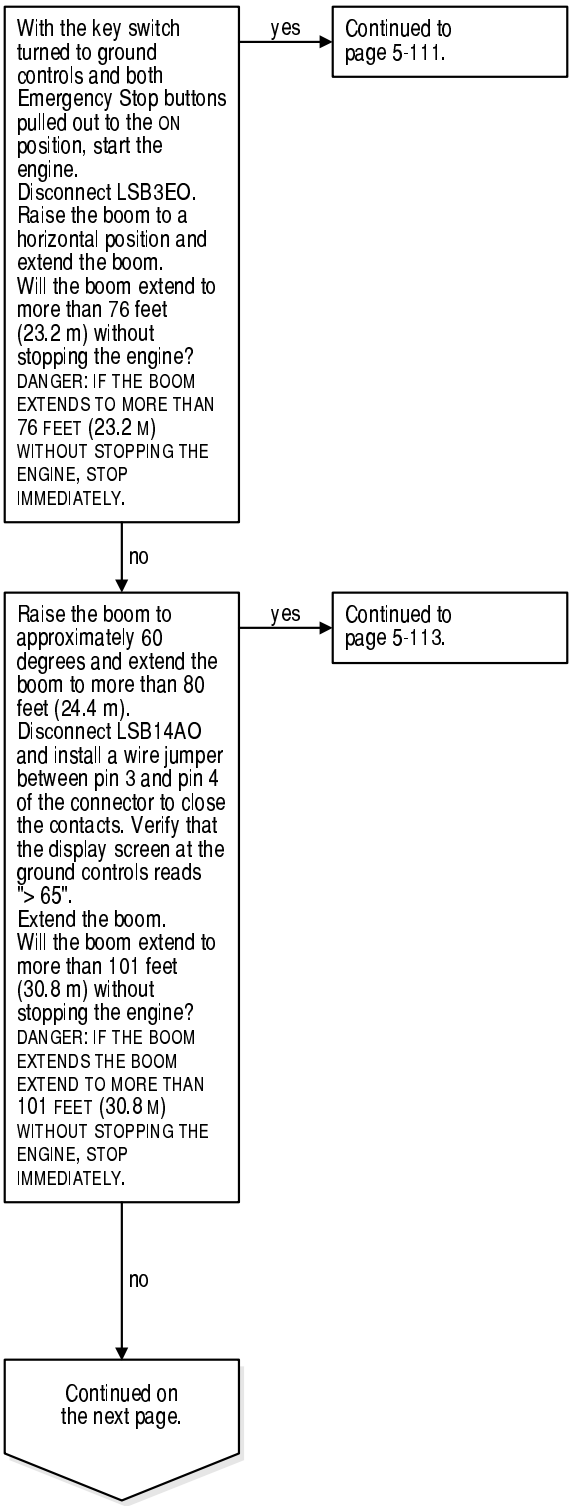

With the key switch turned to ground controls and both Emergency Stop buttons pulled out to the ON position, start the engine.
Disconnect LSB3EO.
Raise the boom to a horizontal position and extend the boom.
Will the boom extend to more than 76 feet (23.2 m) without stopping the engine?
DANGER: IF THE BOOM EXTENDS TO MORE THAN 76 FEET (23.2 M) WITHOUT STOPPING THE ENGINE, STOP IMMEDIATELY.
yes
Continued to page 5-111.
no
Raise the boom to approximately 60 degrees and extend the boom to more than 80 feet (24.4 m).
Disconnect LSB14AO and install a wire jumper between pin 3 and pin 4 of the connector to close the contacts. Verify that the display screen at the ground controls reads "> 65".
Extend the boom.
Will the boom extend to more than 101 feet (30.8 m) without stopping the engine?
DANGER: IF THE BOOM EXTENDS THE BOOM EXTEND TO MORE THAN 101 FEET (30.8 M) WITHOUT STOPPING THE ENGINE, STOP IMMEDIATELY.
yes
Continued to page 5-113.
no
Continued on the next page.

CHART 21

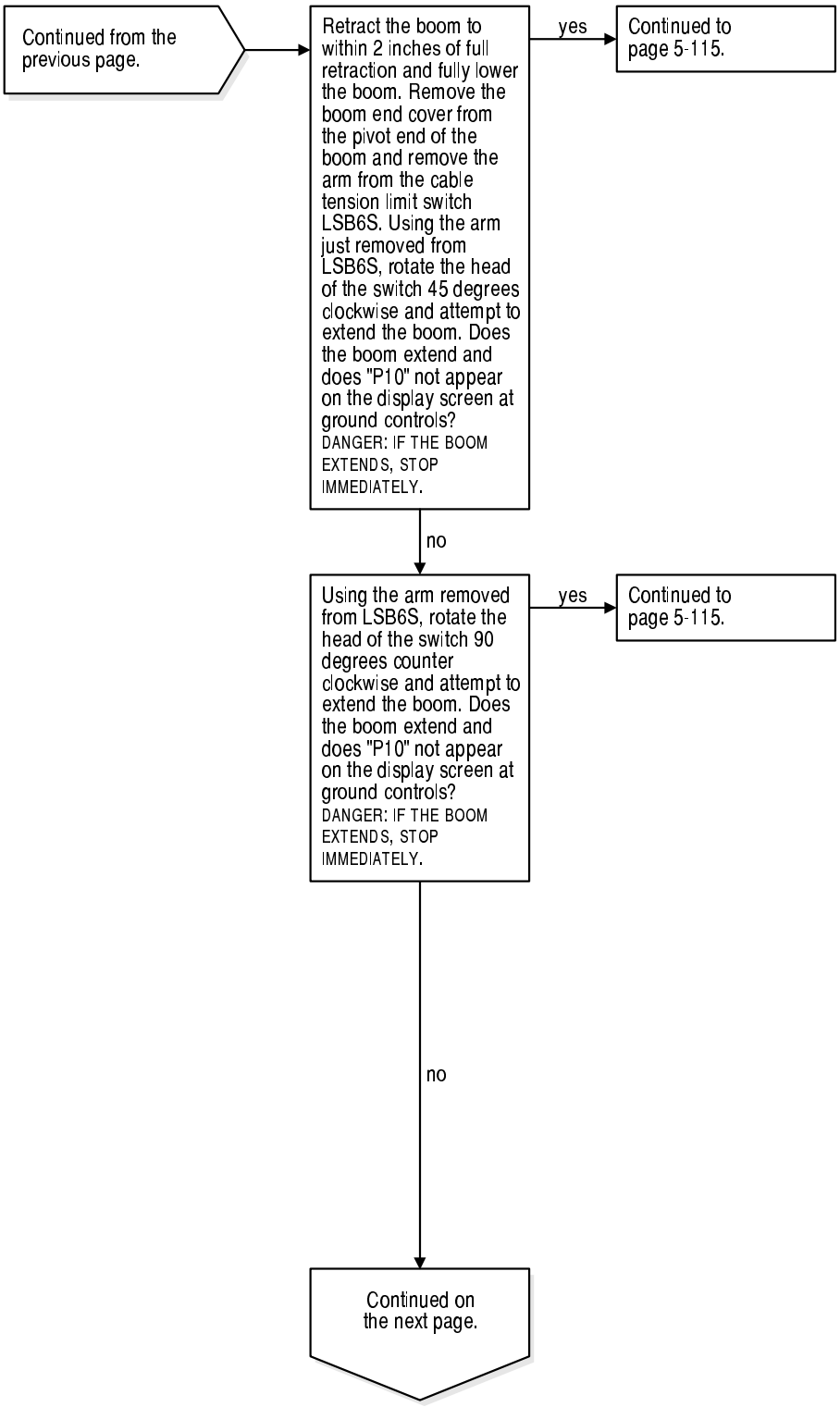

Continued from the previous page.
Retract the boom to within 2 inches of full retraction and fully lower the boom. Remove the boom end cover from the pivot end of the boom and remove the arm from the cable tension limit switch LSB6S. Using the arm just removed from LSB6S, rotate the head of the switch 45 degrees clockwise and attempt to extend the boom. Does the boom extend and does "P10" not appear on the display screen at ground controls? DANGER: IF THE BOOM EXTENDS, STOP IMMEDIATELY.
yes
Continued to page 5-115.
no
Using the arm removed from LSB6S, rotate the head of the switch 90 degrees counter clockwise and attempt to extend the boom. Does the boom extend and does "P10" not appear on the display screen at ground controls? DANGER: IF THE BOOM EXTENDS, STOP IMMEDIATELY.
yes
Continued to page 5-115.
no
Continued on the next page.

CHART 21

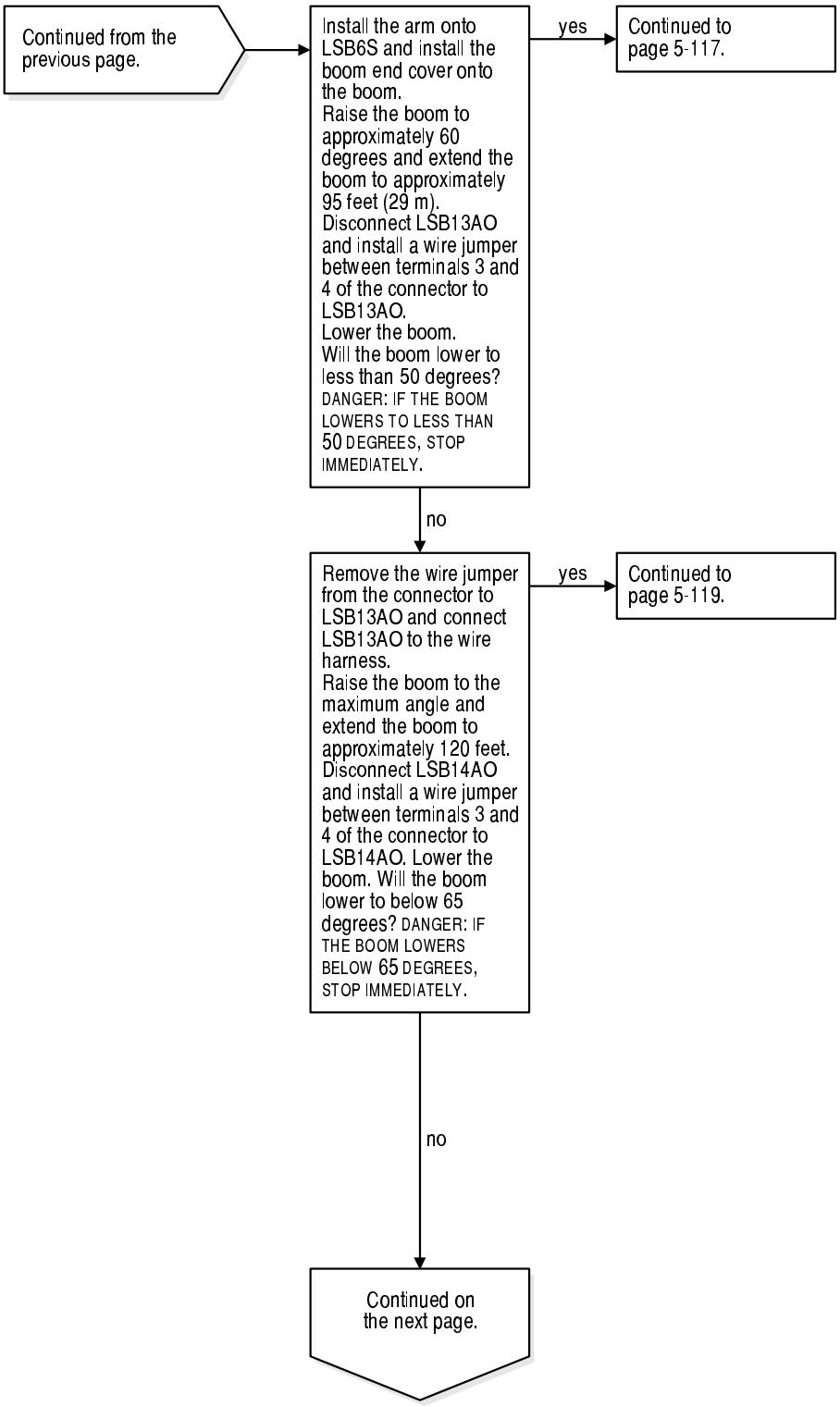

Continued from the previous page.
Install the arm onto LSB6S and install the boom end cover onto the boom.
Raise the boom to approximately 60 degrees and extend the boom to approximately 95 feet (29 m).
Disconnect LSB13AO and install a wire jumper between terminals 3 and 4 of the connector to LSB13AO.
Lower the boom.
Will the boom lower to less than 50 degrees?
DANGER: IF THE BOOM LOWERS TO LESS THAN 50 DEGREES, STOP IMMEDIATELY.
yes
Continued to page 5-117.
no
Remove the wire jumper from the connector to LSB13AO and connect LSB13AO to the wire harness.
Raise the boom to the maximum angle and extend the boom to approximately 120 feet.
Disconnect LSB14AO and install a wire jumper between terminals 3 and 4 of the connector to LSB14AO. Lower the boom. Will the boom lower to below 65 degrees? DANGER: IF THE BOOM LOWERS BELOW 65 DEGREES, STOP IMMEDIATELY.
yes
Continued to page 5-119.
no
Continued on the next page.

CHART 21

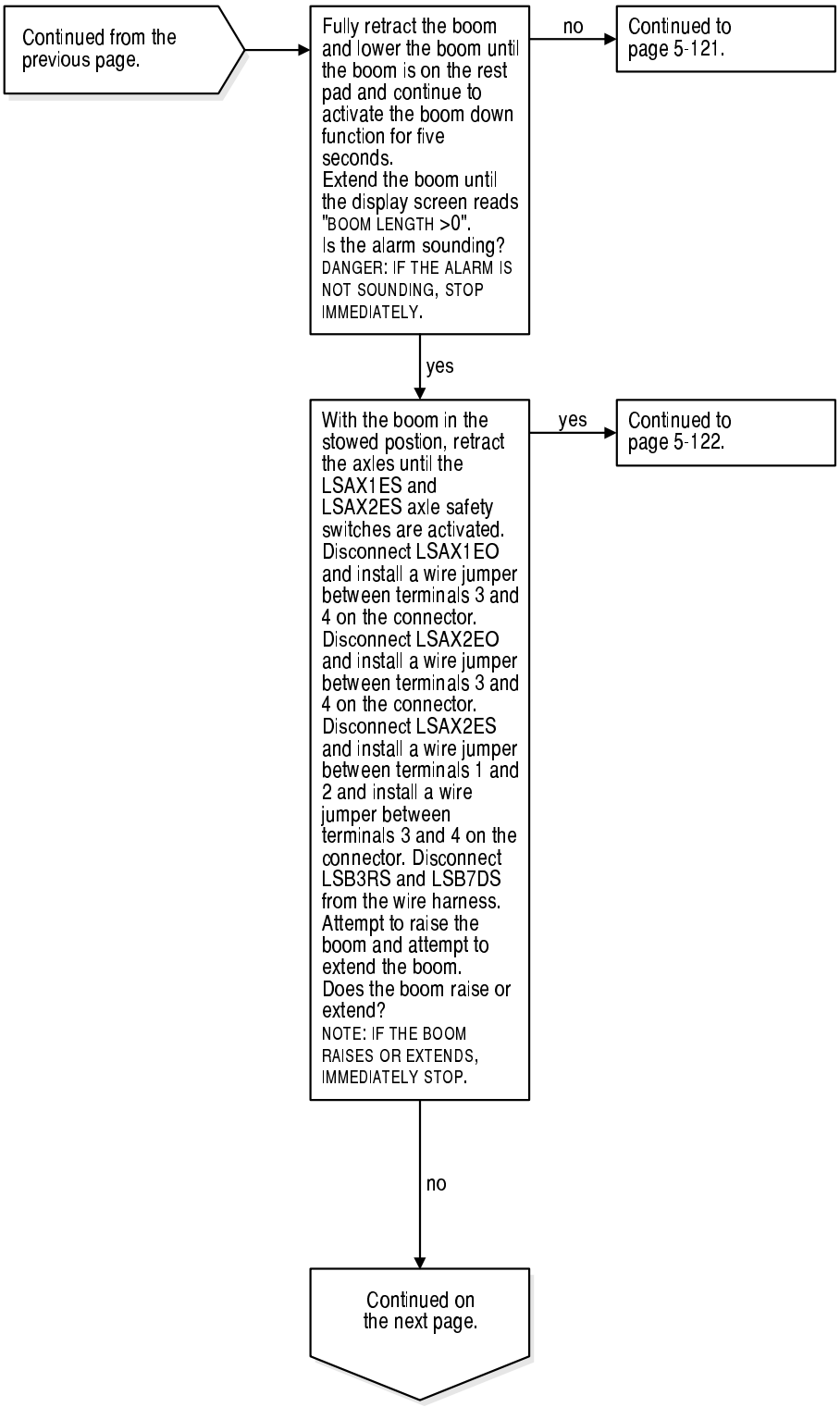

Continued from the previous page.
Fully retract the boom and lower the boom until the boom is on the rest pad and continue to activate the boom down function for five seconds.
Extend the boom until the display screen reads "BOOM LENGTH >0".
Is the alarm sounding?
DANGER: IF THE ALARM IS NOT SOUNDING, STOP IMMEDIATELY.
no
Continued to page 5-121.
yes
With the boom in the stowed postion, retract the axles until the LSAX1ES and LSAX2ES axle safety switches are activated.
Disconnect LSAX1EO and install a wire jumper between terminals 3 and 4 on the connector.
Disconnect LSAX2EO and install a wire jumper between terminals 3 and 4 on the connector.
Disconnect LSAX2ES and install a wire jumper between terminals 1 and 2 and install a wire jumper between terminals 3 and 4 on the connector. Disconnect LSB3RS and LSB7DS from the wire harness.
Attempt to raise the boom and attempt to extend the boom.
Does the boom raise or extend?
NOTE: IF THE BOOM RAISES OR EXTENDS, IMMEDIATELY STOP.
yes
Continued to page 5-122.
no
Continued on the next page.

CHART 21

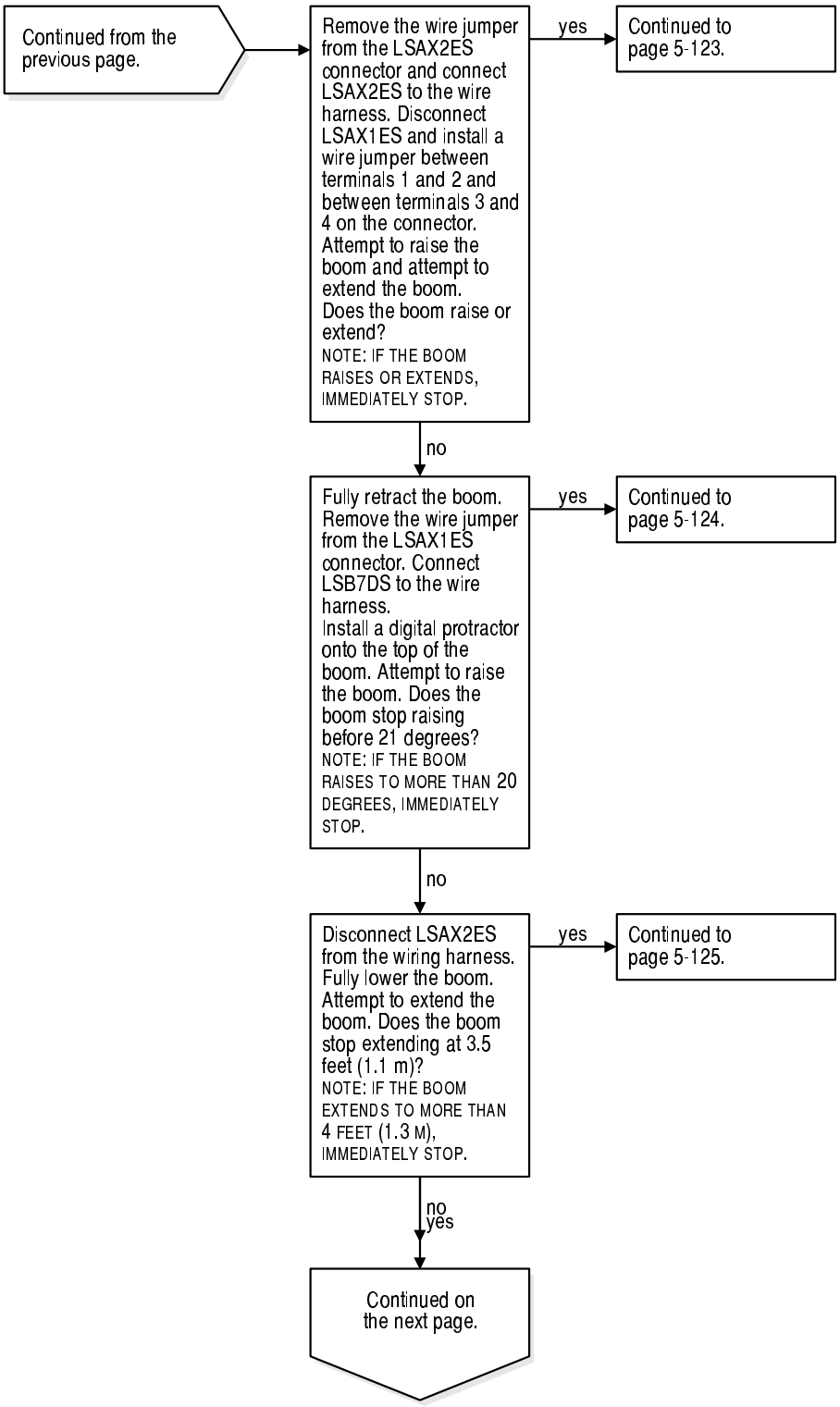

Continued from the previous page.
Remove the wire jumper from the LSAX2ES connector and connect LSAX2ES to the wire harness. Disconnect LSAX1ES and install a wire jumper between terminals 1 and 2 and between terminals 3 and 4 on the connector. Attempt to raise the boom and attempt to extend the boom. Does the boom raise or extend?
NOTE: IF THE BOOM RAISES OR EXTENDS, IMMEDIATELY STOP.
yes
Continued to page 5-123.
no
Fully retract the boom. Remove the wire jumper from the LSAX1ES connector. Connect LSB7DS to the wire harness. Install a digital protractor onto the top of the boom. Attempt to raise the boom. Does the boom stop raising before 21 degrees?
NOTE: IF THE BOOM RAISES TO MORE THAN 20 DEGREES, IMMEDIATELY STOP.
yes
Continued to page 5-124.
no
Disconnect LSAX2ES from the wiring harness. Fully lower the boom. Attempt to extend the boom. Does the boom stop extending at 3.5 feet (1.1 m)?
NOTE: IF THE BOOM EXTENDS TO MORE THAN 4 FEET (1.3 M), IMMEDIATELY STOP.
yes
Continued to page 5-125.
no
yes
Continued on the next page.

CHART 21

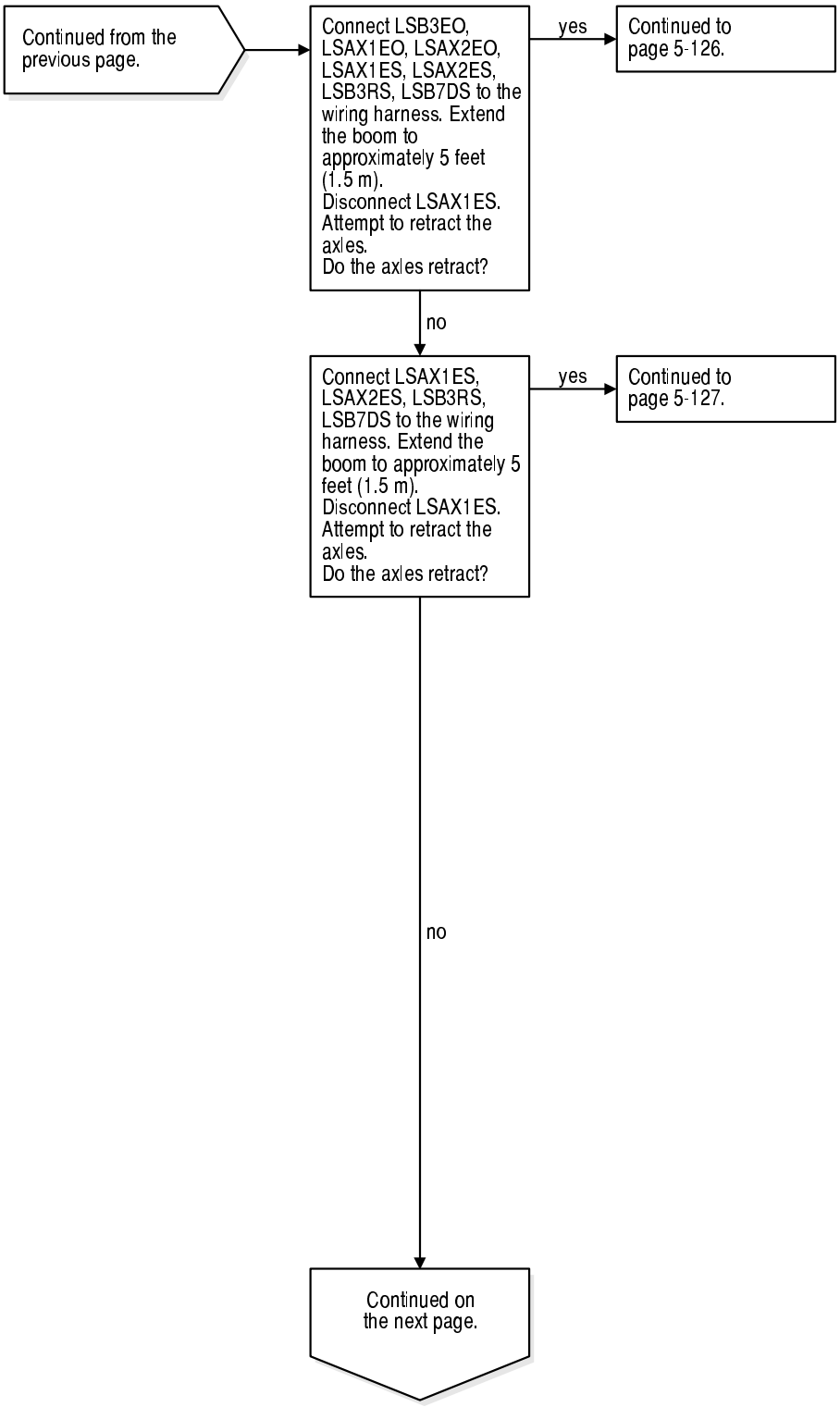

Continued from the previous page.
Connect LSB3EO, LSAX1EO, LSAX2EO, LSAX1ES, LSAX2ES, LSB3RS, LSB7DS to the wiring harness. Extend the boom to approximately 5 feet (1.5 m). Disconnect LSAX1ES. Attempt to retract the axles. Do the axles retract?
yes
Continued to page 5-126.
no
Connect LSAX1ES, LSAX2ES, LSB3RS, LSB7DS to the wiring harness. Extend the boom to approximately 5 feet (1.5 m). Disconnect LSAX1ES. Attempt to retract the axles. Do the axles retract?
yes
Continued to page 5-127.
no
Continued on the next page.

CHART 21

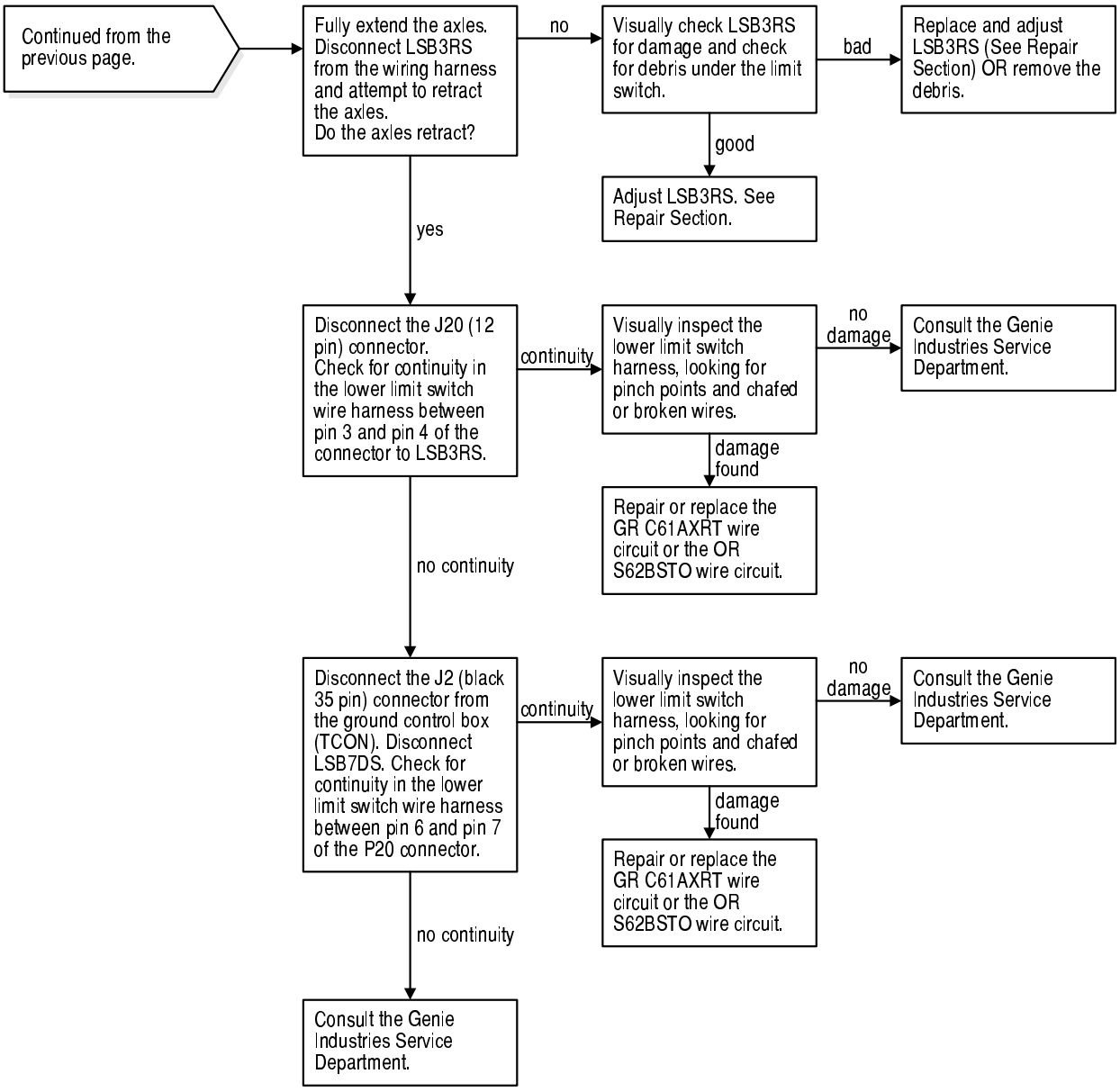

Continued from the previous page.
Fully extend the axles. Disconnect LSB3RS from the wiring harness and attempt to retract the axles. Do the axles retract?
no
Visually check LSB3RS for damage and check for debris under the limit switch.
bad
Replace and adjust LSB3RS (See Repair Section) OR remove the debris.
good
Adjust LSB3RS. See Repair Section.
yes
Disconnect the J20 (12 pin) connector. Check for continuity in the lower limit switch wire harness between pin 3 and pin 4 of the connector to LSB3RS.
continuity
Visually inspect the lower limit switch harness, looking for pinch points and chafed or broken wires.
no damage
Consult the Genie Industries Service Department.
damage found
Repair or replace the GR C61AXRT wire circuit or the OR S62BSTO wire circuit.
no continuity
Disconnect the J2 (black 35 pin) connector from the ground control box (TCON). Disconnect LSB7DS. Check for continuity in the lower limit switch wire harness between pin 6 and pin 7 of the P20 connector.
continuity
Visually inspect the lower limit switch harness, looking for pinch points and chafed or broken wires.
no damage
Consult the Genie Industries Service Department.
damage found
Repair or replace the GR C61AXRT wire circuit or the OR S62BSTO wire circuit.
no continuity
Consult the Genie Industries Service Department.

CHART 21

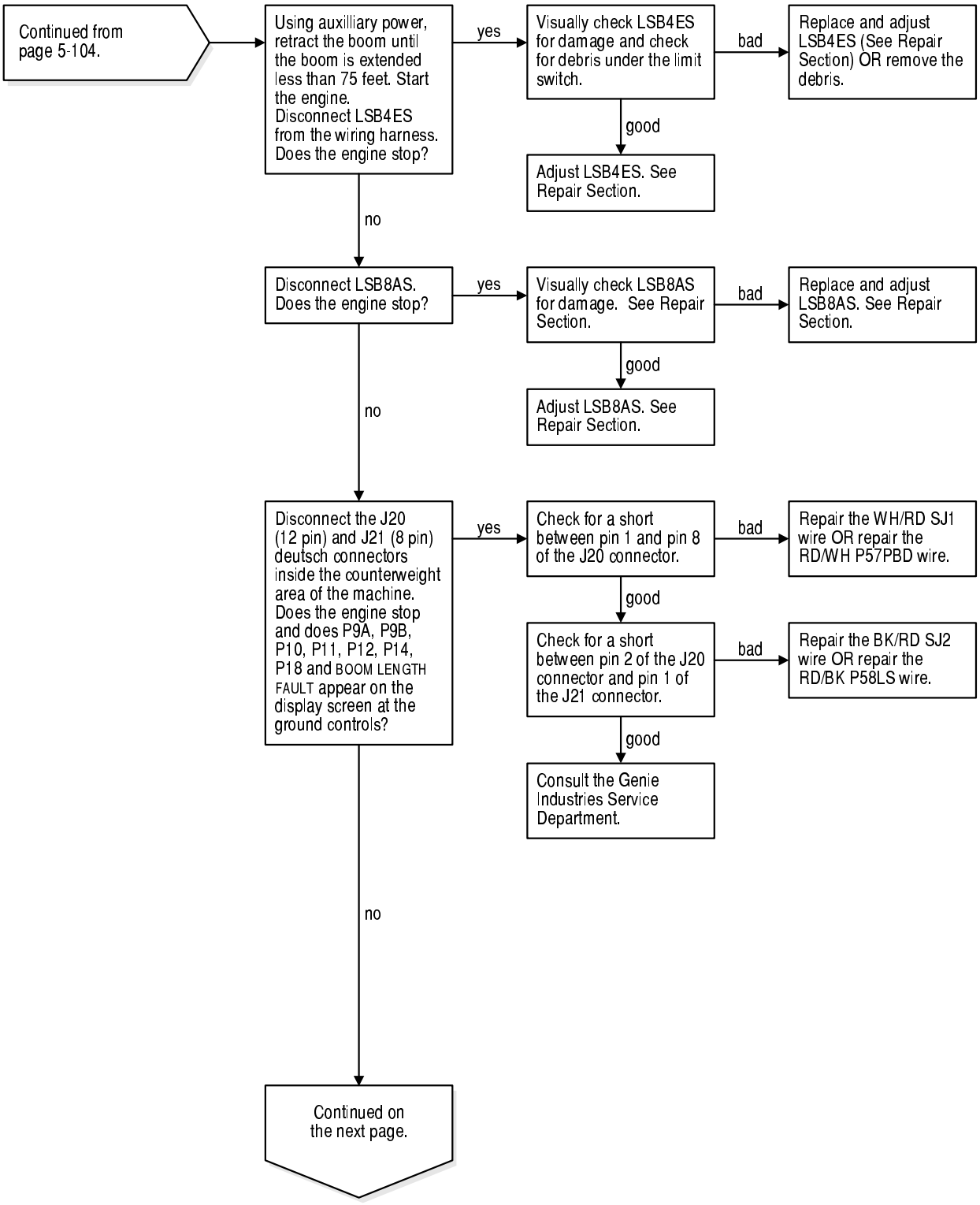
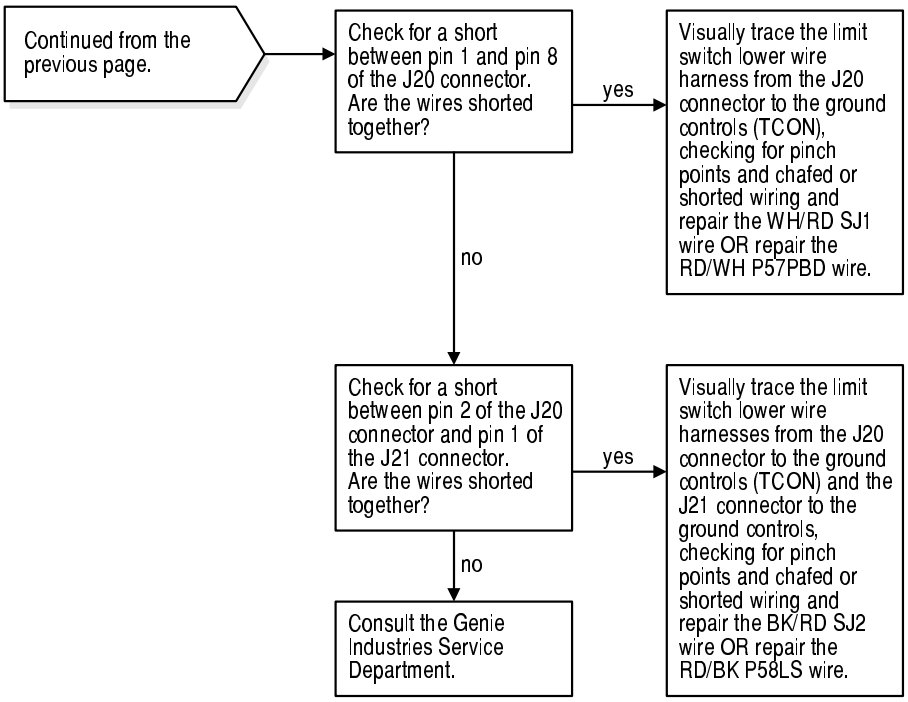

Continued from page 5-104.
Using auxilliary power, retract the boom until the boom is extended less than 75 feet. Start the engine. Disconnect LSB4ES from the wiring harness. Does the engine stop?
yes
Visually check LSB4ES for damage and check for debris under the limit switch.
bad
Replace and adjust LSB4ES (See Repair Section) OR remove the debris.
good
Adjust LSB4ES. See Repair Section.
no
Disconnect LSB8AS. Does the engine stop?
yes
Visually check LSB8AS for damage. See Repair Section.
bad
Replace and adjust LSB8AS. See Repair Section.
good
Adjust LSB8AS. See Repair Section.
no
Disconnect the J20 (12 pin) and J21 (8 pin) deutsch connectors inside the counterweight area of the machine. Does the engine stop and does P9A, P9B, P10, P11, P12, P14, P18 and BOOM LENGTH FAULT appear on the display screen at the ground controls?
yes
Check for a short between pin 1 and pin 8 of the J20 connector.
bad
Repair the WH/RD SJ1 wire OR repair the RD/WH P57PBD wire.
good
Check for a short between pin 2 of the J20 connector and pin 1 of the J21 connector.
bad
Repair the BK/RD SJ2 wire OR repair the RD/BK P58LS wire.
good
Consult the Genie Industries Service Department.
no
Continued on the next page.

CHART 21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Check for a short between pin 1 and pin 8 of the J20 connector. Are the wires shorted together?
yes
Visually trace the limit switch lower wire harness from the J20 connector to the ground controls (TCON), checking for pinch points and chafed or shorted wiring and repair the WH/RD SJ1 wire OR repair the RD/WH P57PBD wire.
no
Check for a short between pin 2 of the J20 connector and pin 1 of the J21 connector. Are the wires shorted together?
yes
Visually trace the limit switch lower wire harnesses from the J20 connector to the ground controls (TCON) and the J21 connector to the ground controls, checking for pinch points and chafed or shorted wiring and repair the BK/RD SJ2 wire OR repair the RD/BK P58LS wire.
no
Consult the Genie Industries Service Department.

CHART 21

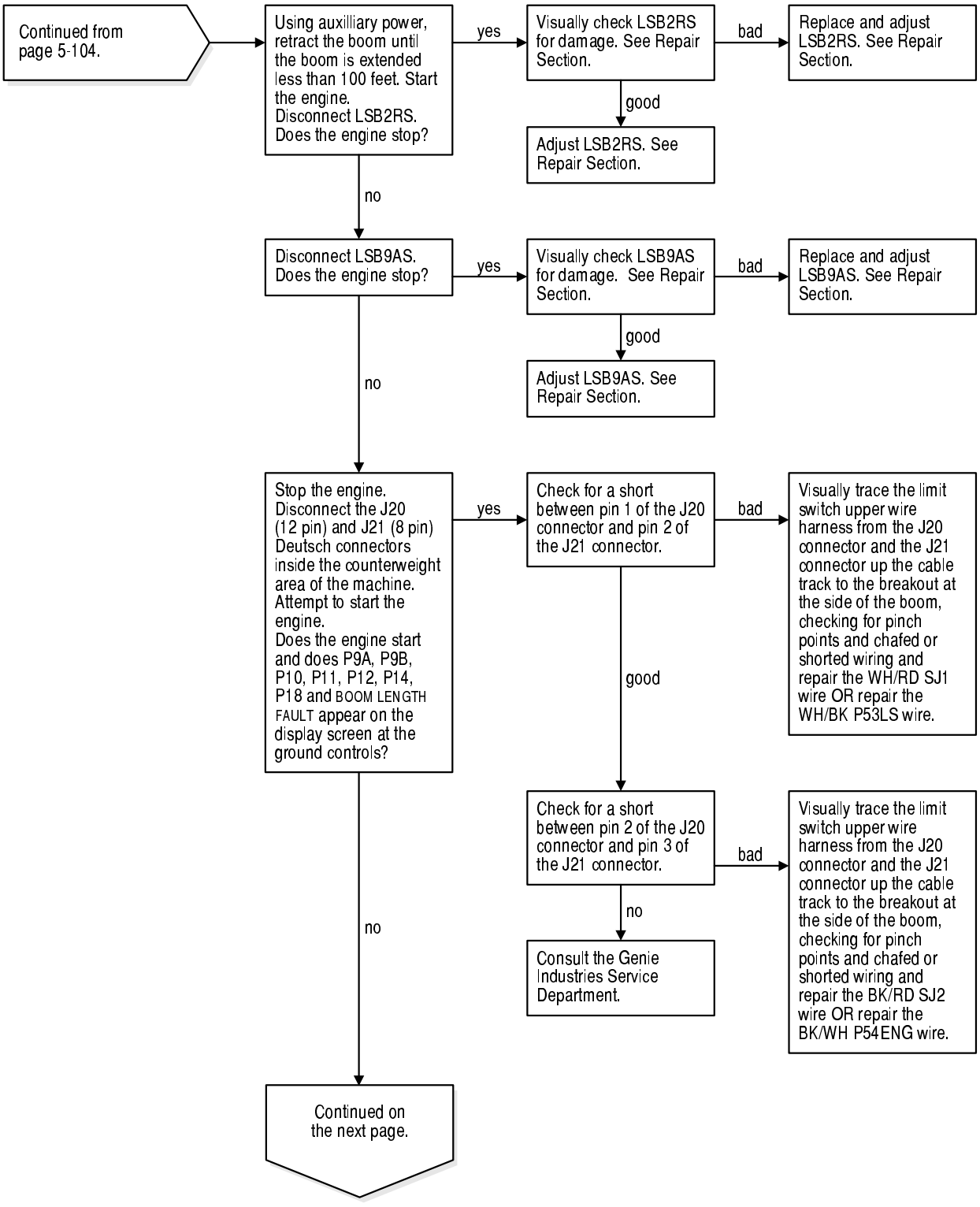
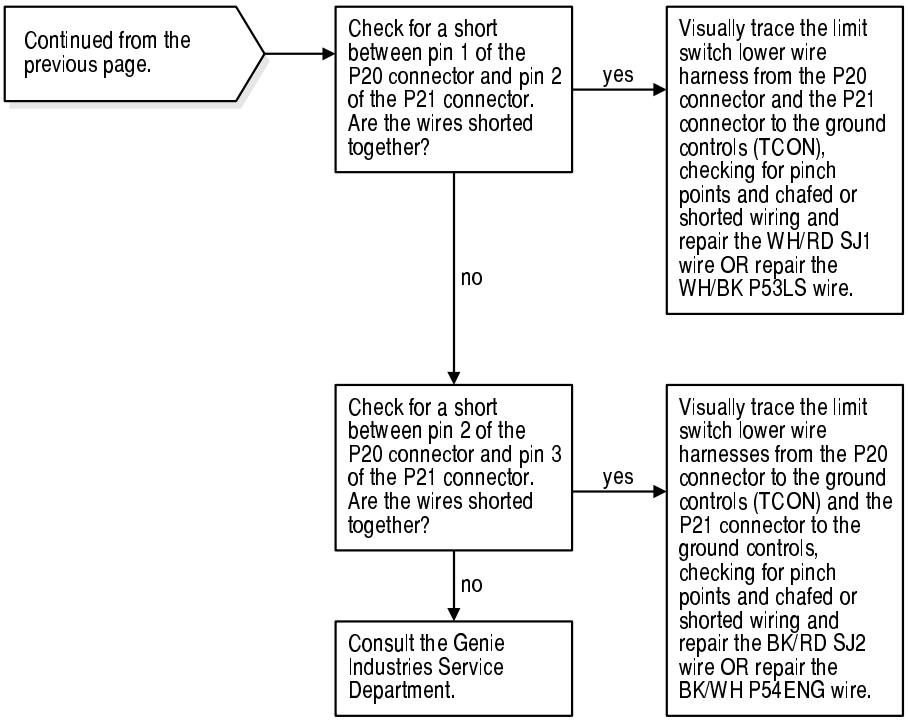

Continued from page 5-104.
Using auxilliary power, retract the boom until the boom is extended less than 100 feet. Start the engine. Disconnect LSB2RS. Does the engine stop?
yes
Visually check LSB2RS for damage. See Repair Section.
bad
Replace and adjust LSB2RS. See Repair Section.
good
Adjust LSB2RS. See Repair Section.
no
Disconnect LSB9AS. Does the engine stop?
yes
Visually check LSB9AS for damage. See Repair Section.
bad
Replace and adjust LSB9AS. See Repair Section.
good
Adjust LSB9AS. See Repair Section.
no
Stop the engine. Disconnect the J20 (12 pin) and J21 (8 pin) Deutsch connectors inside the counterweight area of the machine. Attempt to start the engine. Does the engine start and does P9A, P9B, P10, P11, P12, P14, P18 and BOOM LENGTH FAULT appear on the display screen at the ground controls?
yes
Check for a short between pin 1 of the J20 connector and pin 2 of the J21 connector.
bad
Visually trace the limit switch upper wire harness from the J20 connector and the J21 connector up the cable track to the breakout at the side of the boom, checking for pinch points and chafed or shorted wiring and repair the WH/RD SJ1 wire OR repair the WH/BK P53LS wire.
good
Check for a short between pin 2 of the J20 connector and pin 3 of the J21 connector.
bad
Visually trace the limit switch upper wire harness from the J20 connector and the J21 connector up the cable track to the breakout at the side of the boom, checking for pinch points and chafed or shorted wiring and repair the BK/RD SJ2 wire OR repair the BK/WH P54ENG wire.
no
Consult the Genie Industries Service Department.
no
Continued on the next page.

CHART 21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Check for a short between pin 1 of the P20 connector and pin 2 of the P21 connector. Are the wires shorted together?
yes
Visually trace the limit switch lower wire harness from the P20 connector and the P21 connector to the ground controls (TCON), checking for pinch points and chafed or shorted wiring and repair the WH/RD SJ1 wire OR repair the WH/BK P53LS wire.
no
Check for a short between pin 2 of the P20 connector and pin 3 of the P21 connector. Are the wires shorted together?
yes
Visually trace the limit switch lower wire harnesses from the P20 connector to the ground controls (TCON) and the P21 connector to the ground controls, checking for pinch points and chafed or shorted wiring and repair the BK/RD SJ2 wire OR repair the BK/WH P54ENG wire.
no
Consult the Genie Industries Service Department.

CHART 21

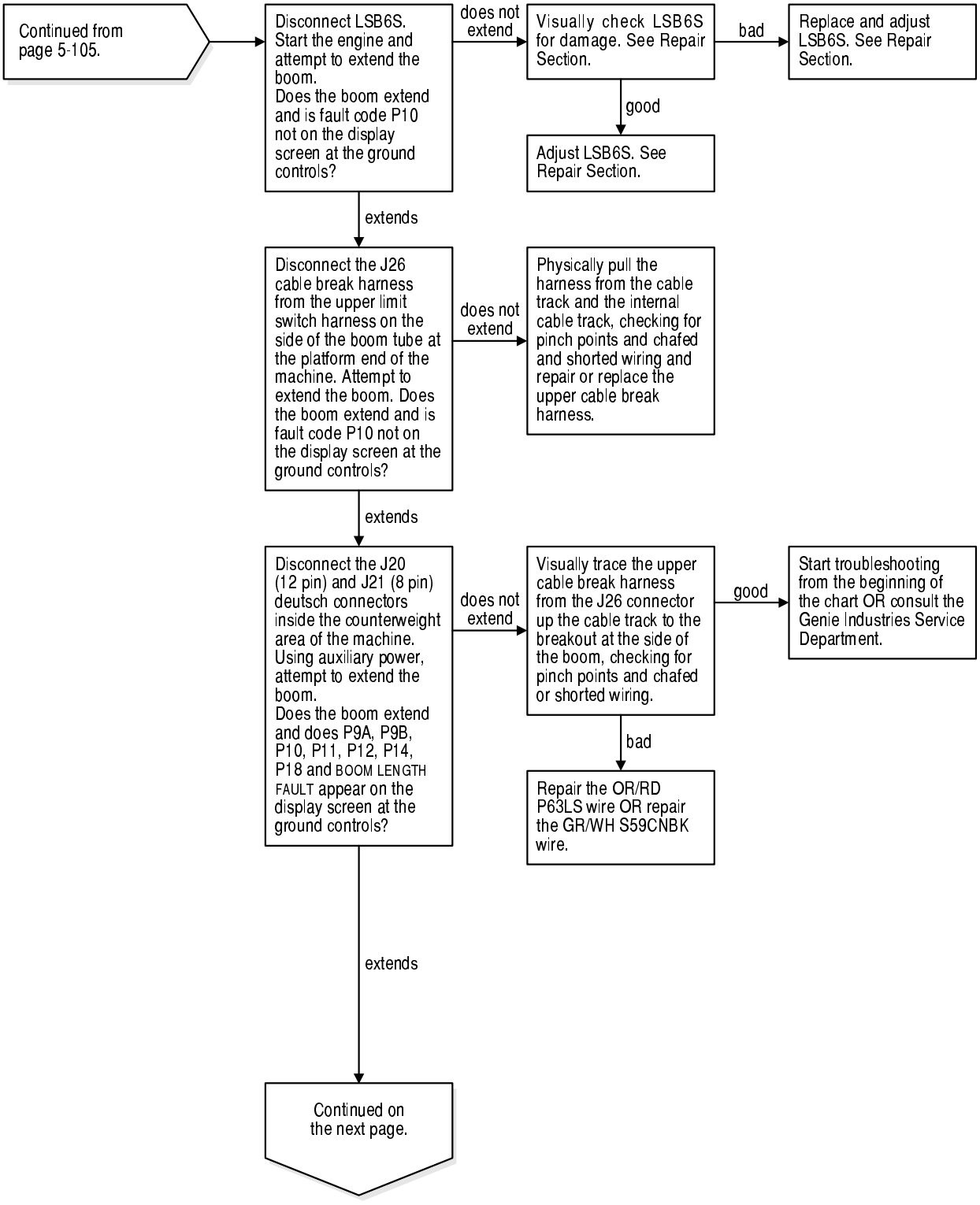
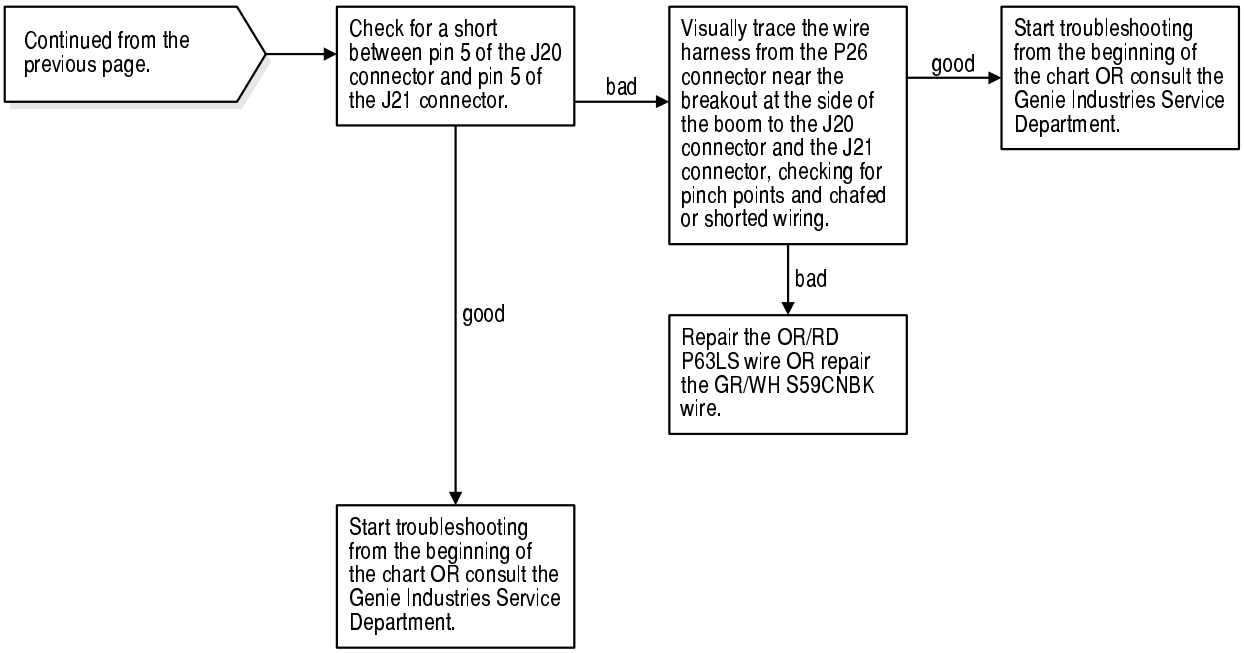

Continued from page 5-105.
Disconnect LSB6S. Start the engine and attempt to extend the boom. Does the boom extend and is fault code P10 not on the display screen at the ground controls?
does not extend
Visually check LSB6S for damage. See Repair Section.
bad
Replace and adjust LSB6S. See Repair Section.
good
Adjust LSB6S. See Repair Section.
extends
Disconnect the J26 cable break harness from the upper limit switch harness on the side of the boom tube at the platform end of the machine. Attempt to extend the boom. Does the boom extend and is fault code P10 not on the display screen at the ground controls?
does not extend
Physically pull the harness from the cable track and the internal cable track, checking for pinch points and chafed and shorted wiring and repair or replace the upper cable break harness.
extends
Disconnect the J20 (12 pin) and J21 (8 pin) deutsch connectors inside the counterweight area of the machine. Using auxiliary power, attempt to extend the boom. Does the boom extend and does P9A, P9B, P10, P11, P12, P14, P18 and BOOM LENGTH FAULT appear on the display screen at the ground controls?
does not extend
Visually trace the upper cable break harness from the J26 connector up the cable track to the breakout at the side of the boom, checking for pinch points and chafed or shorted wiring.
good
Start troubleshooting from the beginning of the chart OR consult the Genie Industries Service Department.
bad
Repair the OR/RD P63LS wire OR repair the GR/WH S59CNBK wire.
extends
Continued on the next page.

CHART 21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Check for a short between pin 5 of the J20 connector and pin 5 of the J21 connector.
bad
Visually trace the wire harness from the P26 connector near the breakout at the side of the boom to the J20 connector and the J21 connector, checking for pinch points and chafed or shorted wiring.
good
Start troubleshooting from the beginning of the chart OR consult the Genie Industries Service Department.
bad
Repair the OR/RD P63LS wire OR repair the GR/WH S59CNBK wire.
good
Start troubleshooting from the beginning of the chart OR consult the Genie Industries Service Department.

CHART 21

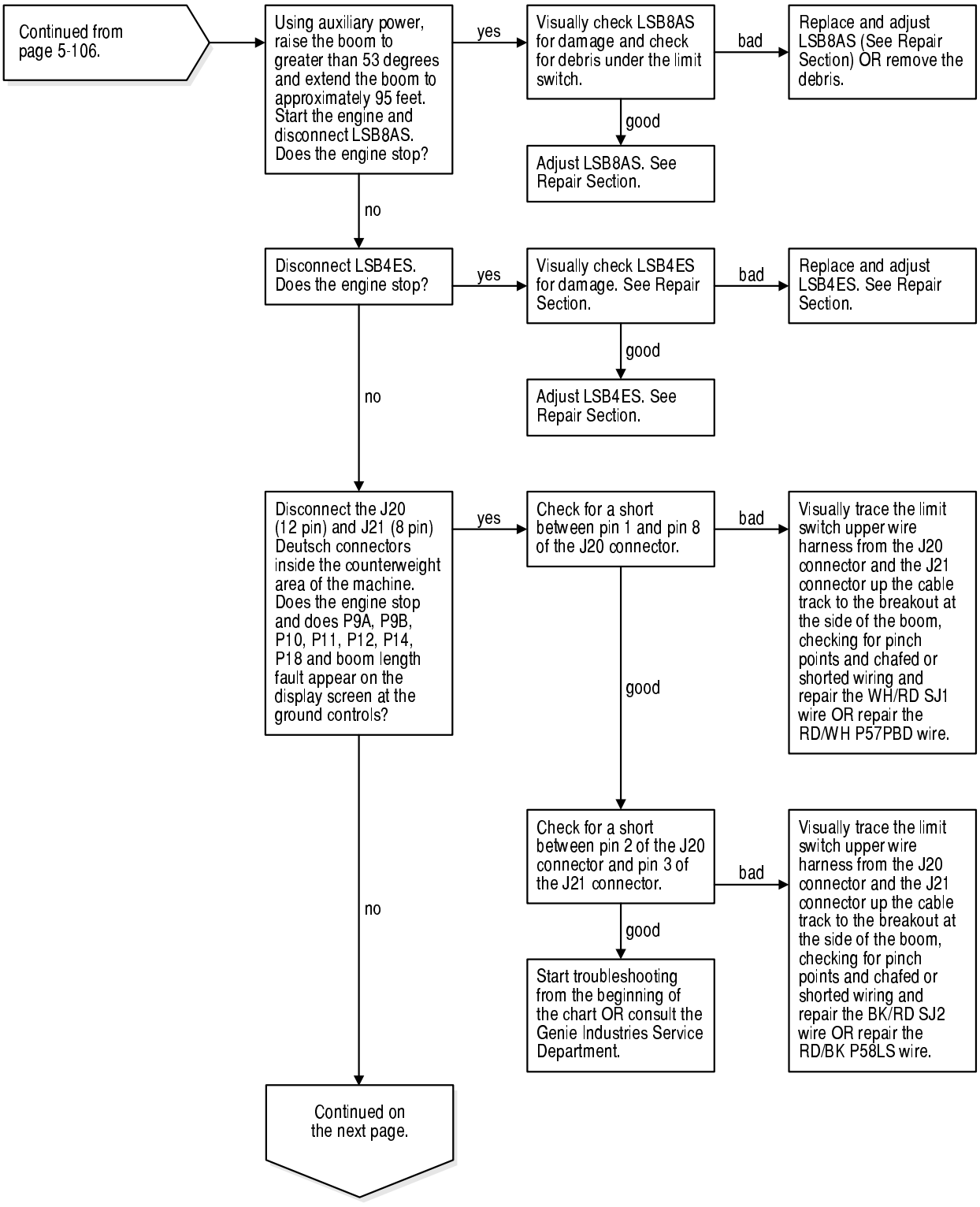
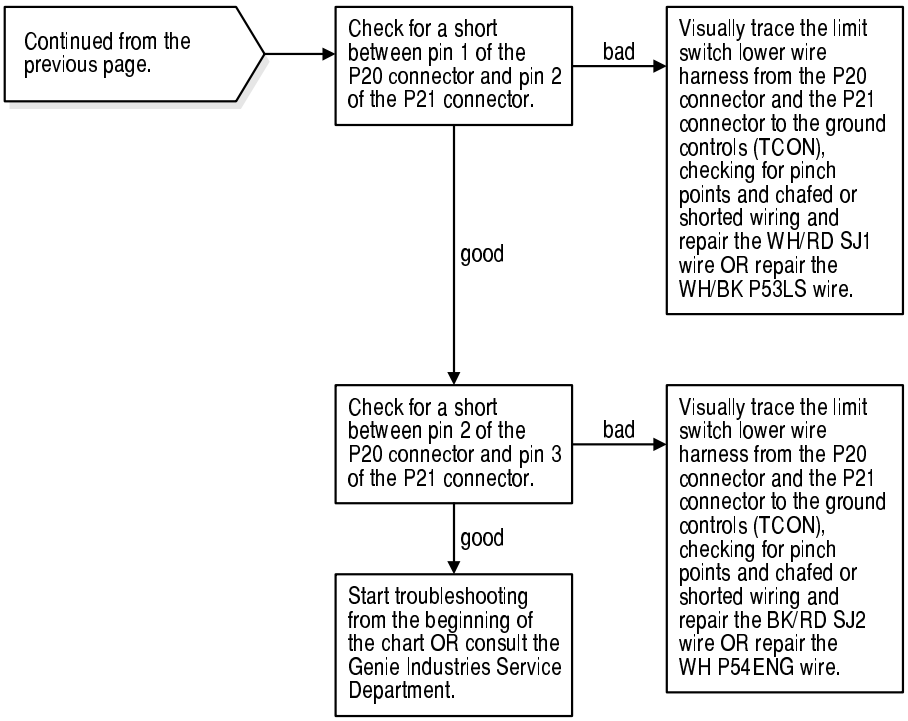

Continued from page 5-106.
Using auxiliary power, raise the boom to greater than 53 degrees and extend the boom to approximately 95 feet. Start the engine and disconnect LSB8AS. Does the engine stop?
yes
Visually check LSB8AS for damage and check for debris under the limit switch.
bad
Replace and adjust LSB8AS (See Repair Section) OR remove the debris.
good
Adjust LSB8AS. See Repair Section.
no
Disconnect LSB4ES. Does the engine stop?
yes
Visually check LSB4ES for damage. See Repair Section.
bad
Replace and adjust LSB4ES. See Repair Section.
good
Adjust LSB4ES. See Repair Section.
no
Disconnect the J20 (12 pin) and J21 (8 pin) Deutsch connectors inside the counterweight area of the machine. Does the engine stop and does P9A, P9B, P10, P11, P12, P14, P18 and boom length fault appear on the display screen at the ground controls?
yes
Check for a short between pin 1 and pin 8 of the J20 connector.
bad
Visually trace the limit switch upper wire harness from the J20 connector and the J21 connector up the cable track to the breakout at the side of the boom, checking for pinch points and chafed or shorted wiring and repair the WH/RD SJ1 wire OR repair the RD/WH P57PBD wire.
good
Check for a short between pin 2 of the J20 connector and pin 3 of the J21 connector.
bad
Visually trace the limit switch upper wire harness from the J20 connector and the J21 connector up the cable track to the breakout at the side of the boom, checking for pinch points and chafed or shorted wiring and repair the BK/RD SJ2 wire OR repair the RD/BK P58LS wire.
good
Start troubleshooting from the beginning of the chart OR consult the Genie Industries Service Department.
no
Continued on the next page.

CHART 21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Check for a short between pin 1 of the P20 connector and pin 2 of the P21 connector.
bad
Visually trace the limit switch lower wire harness from the P20 connector and the P21 connector to the ground controls (TCON), checking for pinch points and chafed or shorted wiring and repair the WH/RD SJ1 wire OR repair the WH/BK P53LS wire.
good
Check for a short between pin 2 of the P20 connector and pin 3 of the P21 connector.
bad
Visually trace the limit switch lower wire harness from the P20 connector and the P21 connector to the ground controls (TCON), checking for pinch points and chafed or shorted wiring and repair the BK/RD SJ2 wire OR repair the WH P54ENG wire.
good
Start troubleshooting from the beginning of the chart OR consult the Genie Industries Service Department.

CHART 21

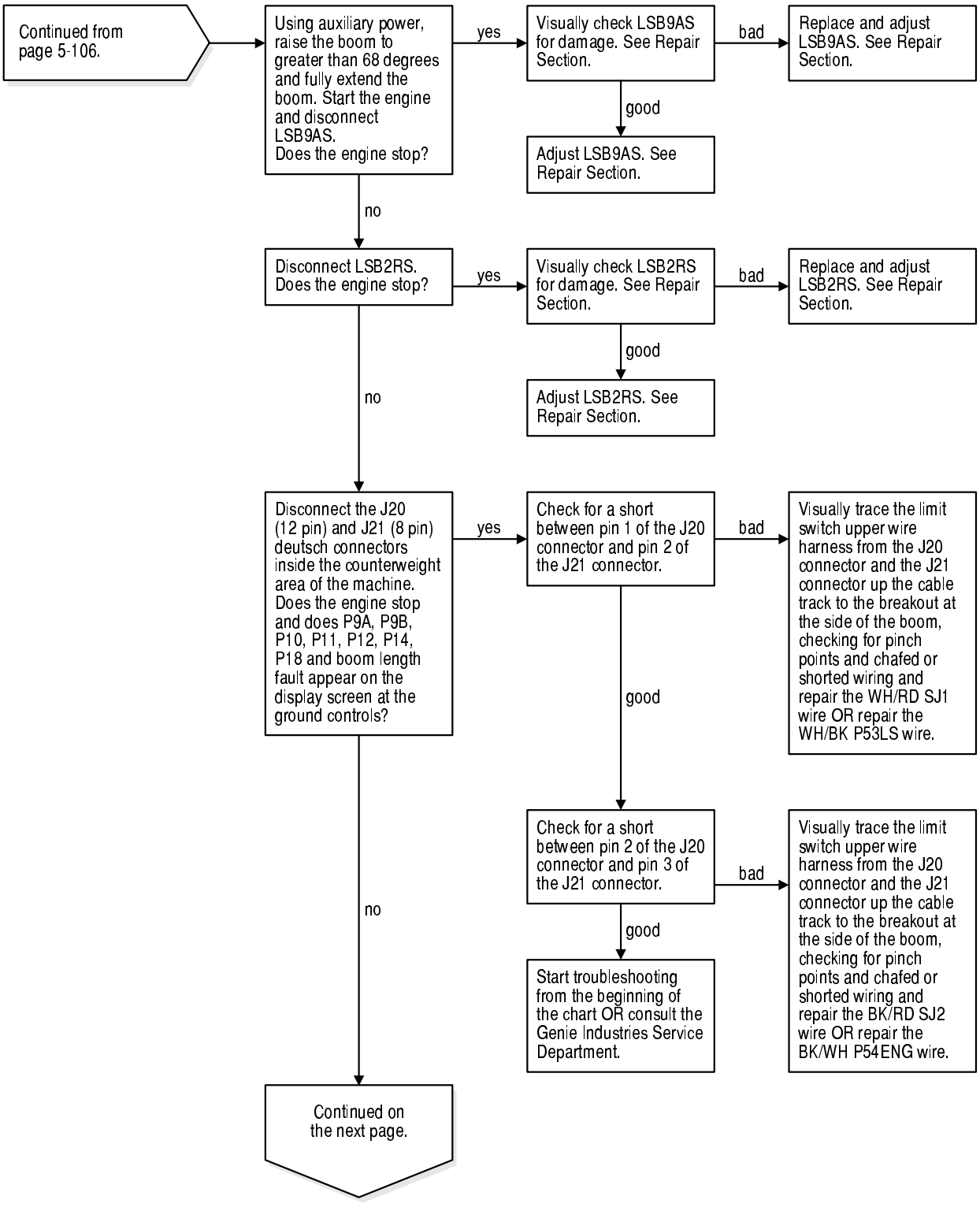
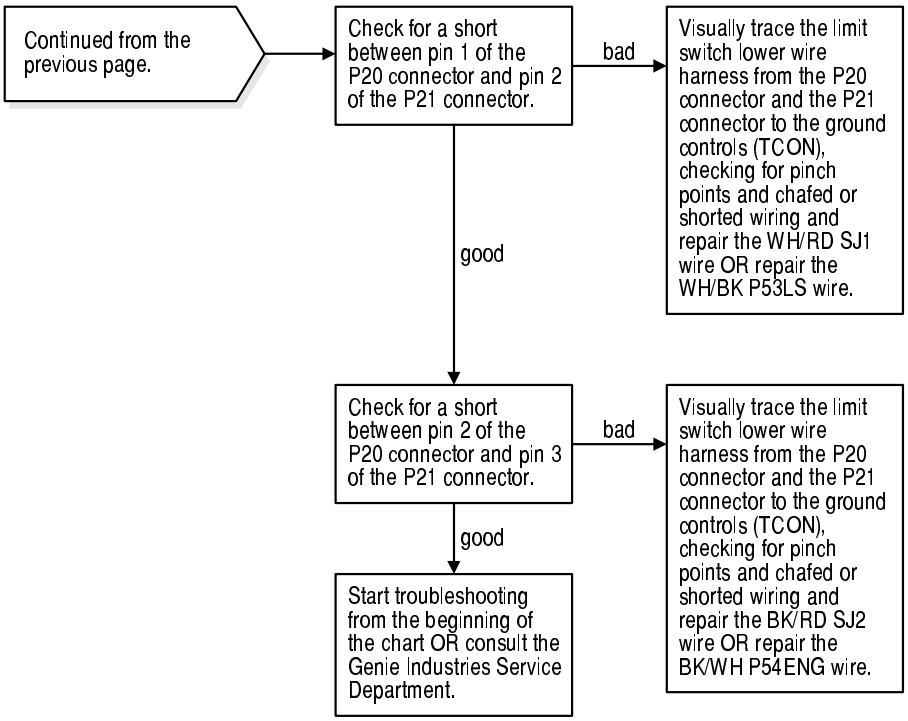

Continued from page 5-106.
Using auxiliary power, raise the boom to greater than 68 degrees and fully extend the boom. Start the engine and disconnect LSB9AS. Does the engine stop?
yes
Visually check LSB9AS for damage. See Repair Section.
bad
Replace and adjust LSB9AS. See Repair Section.
good
Adjust LSB9AS. See Repair Section.
no
Disconnect LSB2RS. Does the engine stop?
yes
Visually check LSB2RS for damage. See Repair Section.
bad
Replace and adjust LSB2RS. See Repair Section.
good
Adjust LSB2RS. See Repair Section.
no
Disconnect the J20 (12 pin) and J21 (8 pin) deutsch connectors inside the counterweight area of the machine. Does the engine stop and does P9A, P9B, P10, P11, P12, P14, P18 and boom length fault appear on the display screen at the ground controls?
yes
Check for a short between pin 1 of the J20 connector and pin 2 of the J21 connector.
bad
Visually trace the limit switch upper wire harness from the J20 connector and the J21 connector up the cable track to the breakout at the side of the boom, checking for pinch points and chafed or shorted wiring and repair the WH/RD SJ1 wire OR repair the WH/BK P53LS wire.
good
Check for a short between pin 2 of the J20 connector and pin 3 of the J21 connector.
bad
Visually trace the limit switch upper wire harness from the J20 connector and the J21 connector up the cable track to the breakout at the side of the boom, checking for pinch points and chafed or shorted wiring and repair the BK/RD SJ2 wire OR repair the BK/WH P54ENG wire.
good
Start troubleshooting from the beginning of the chart OR consult the Genie Industries Service Department.
no
Continued on the next page.

CHART 21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Check for a short between pin 1 of the P20 connector and pin 2 of the P21 connector.
bad
Visually trace the limit switch lower wire harness from the P20 connector and the P21 connector to the ground controls (TCON), checking for pinch points and chafed or shorted wiring and repair the WH/RD SJ1 wire OR repair the WH/BK P53LS wire.
good
Check for a short between pin 2 of the P20 connector and pin 3 of the P21 connector.
bad
Visually trace the limit switch lower wire harness from the P20 connector and the P21 connector to the ground controls (TCON), checking for pinch points and chafed or shorted wiring and repair the BK/RD SJ2 wire OR repair the BK/WH P54ENG wire.
good
Start troubleshooting from the beginning of the chart OR consult the Genie Industries Service Department.

CHART 21

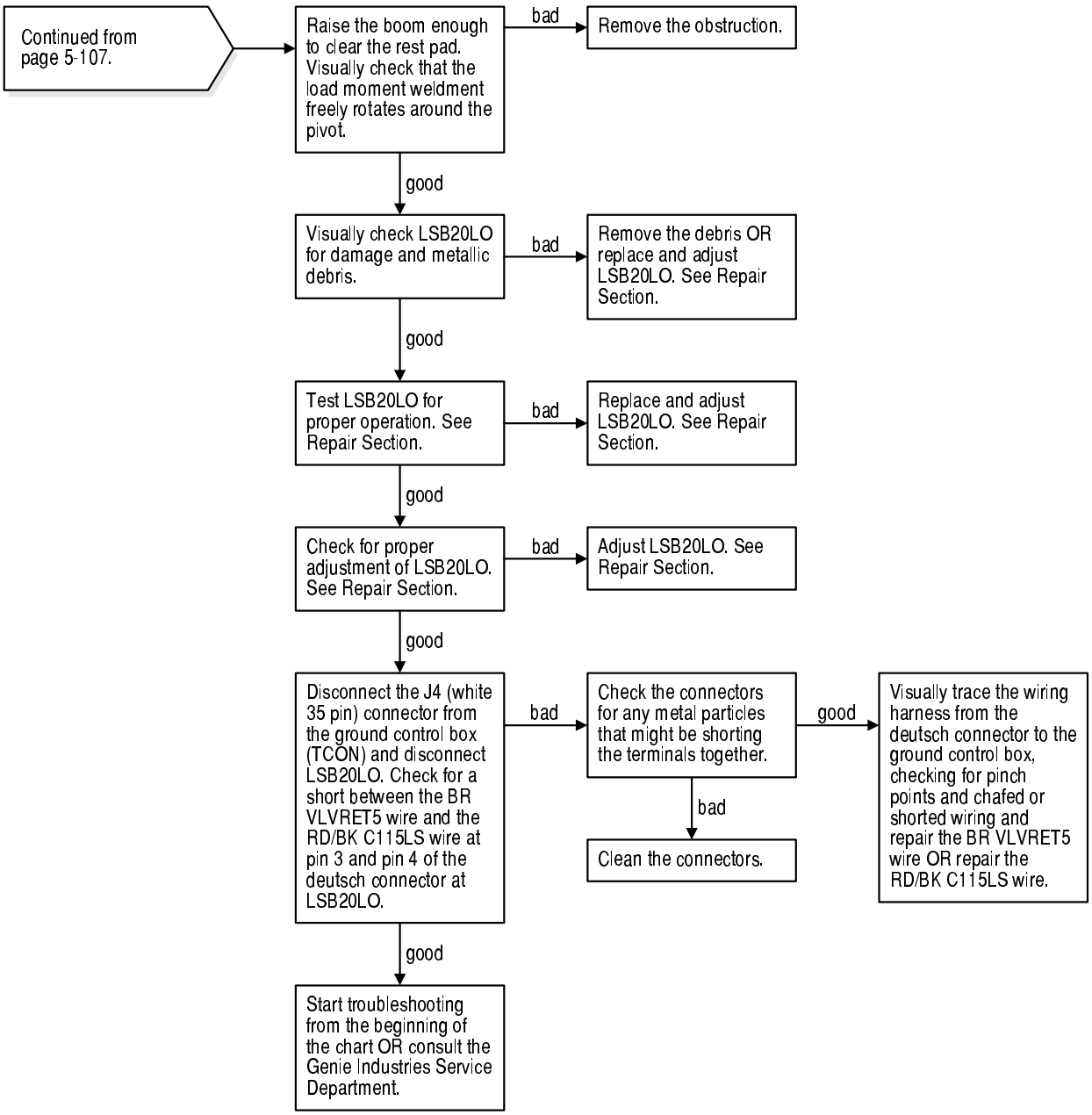

Continued from page 5-107.
Raise the boom enough to clear the rest pad. Visually check that the load moment weldment freely rotates around the pivot.
bad
Remove the obstruction.
good
Visually check LSB20LO for damage and metallic debris.
bad
Remove the debris OR replace and adjust LSB20LO. See Repair Section.
good
Test LSB20LO for proper operation. See Repair Section.
bad
Replace and adjust LSB20LO. See Repair Section.
good
Check for proper adjustment of LSB20LO. See Repair Section.
bad
Adjust LSB20LO. See Repair Section.
good
Disconnect the J4 (white 35 pin) connector from the ground control box (TCON) and disconnect LSB20LO. Check for a short between the BR VLVRET5 wire and the RD/BK C115LS wire at pin 3 and pin 4 of the deutsch connector at LSB20LO.
bad
Check the connectors for any metal particles that might be shorting the terminals together.
good
Visually trace the wiring harness from the deutsch connector to the ground control box, checking for pinch points and chafed or shorted wiring and repair the BR VLVRET5 wire OR repair the RD/BK C115LS wire.
bad
Clean the connectors.
good
Start troubleshooting from the beginning of the chart OR consult the Genie Industries Service Department.

CHART 21

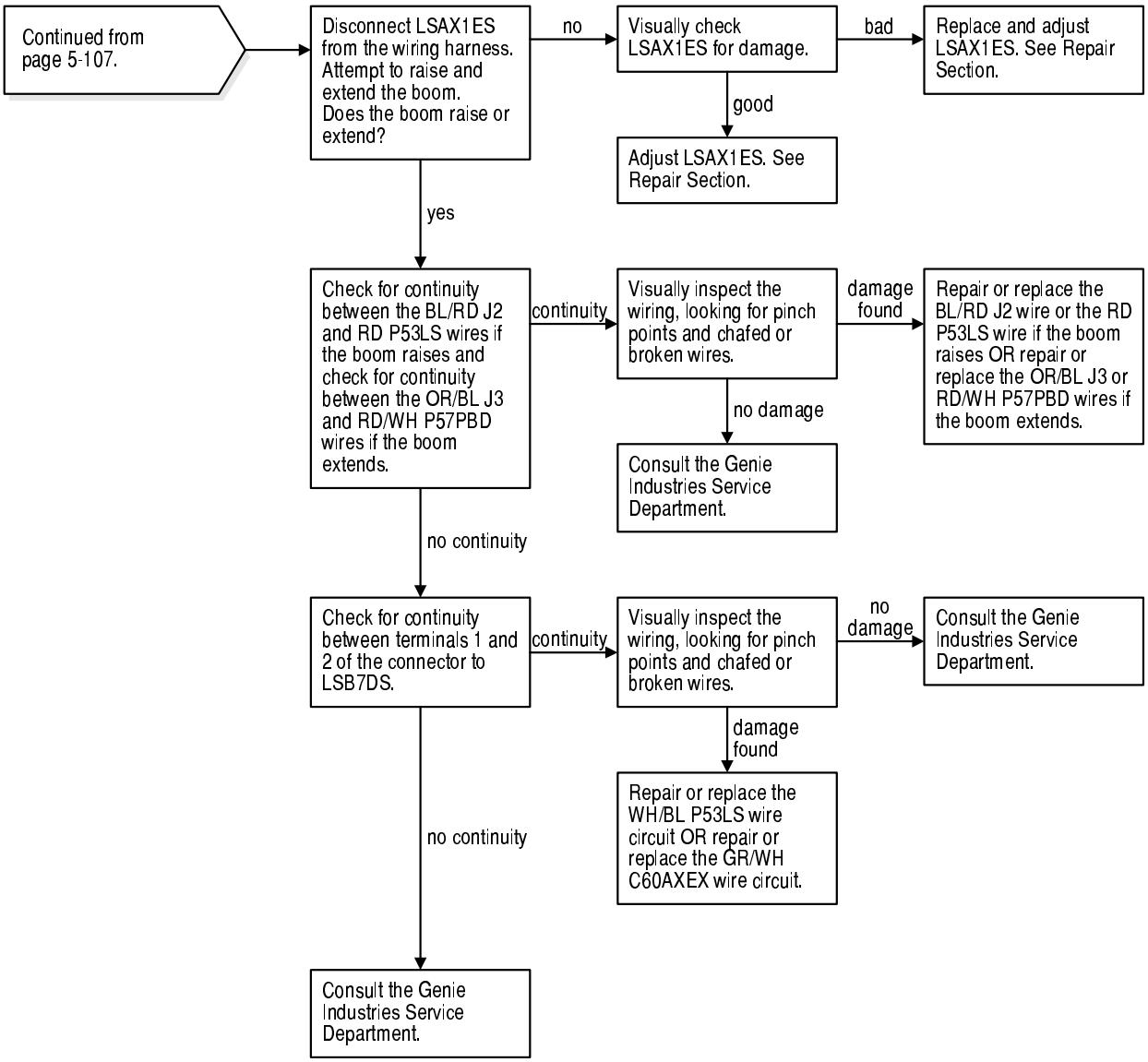

Continued from page 5-107.
Disconnect LSAX1ES from the wiring harness. Attempt to raise and extend the boom. Does the boom raise or extend?
no
Visually check LSAX1ES for damage.
bad
Replace and adjust LSAX1ES. See Repair Section.
good
Adjust LSAX1ES. See Repair Section.
yes
Check for continuity between the BL/RD J2 and RD P53LS wires if the boom raises and check for continuity between the OR/BL J3 and RD/WH P57PBD wires if the boom extends.
continuity
Visually inspect the wiring, looking for pinch points and chafed or broken wires.
damage found
Repair or replace the BL/RD J2 wire or the RD P53LS wire if the boom raises OR repair or replace the OR/BL J3 or RD/WH P57PBD wires if the boom extends.
no damage
Consult the Genie Industries Service Department.
no continuity
Check for continuity between terminals 1 and 2 of the connector to LSB7DS.
continuity
Visually inspect the wiring, looking for pinch points and chafed or broken wires.
no damage
Consult the Genie Industries Service Department.
damage found
Repair or replace the WH/BL P53LS wire circuit OR repair or replace the GR/WH C60AXEX wire circuit.
no continuity
Consult the Genie Industries Service Department.

CHART 21

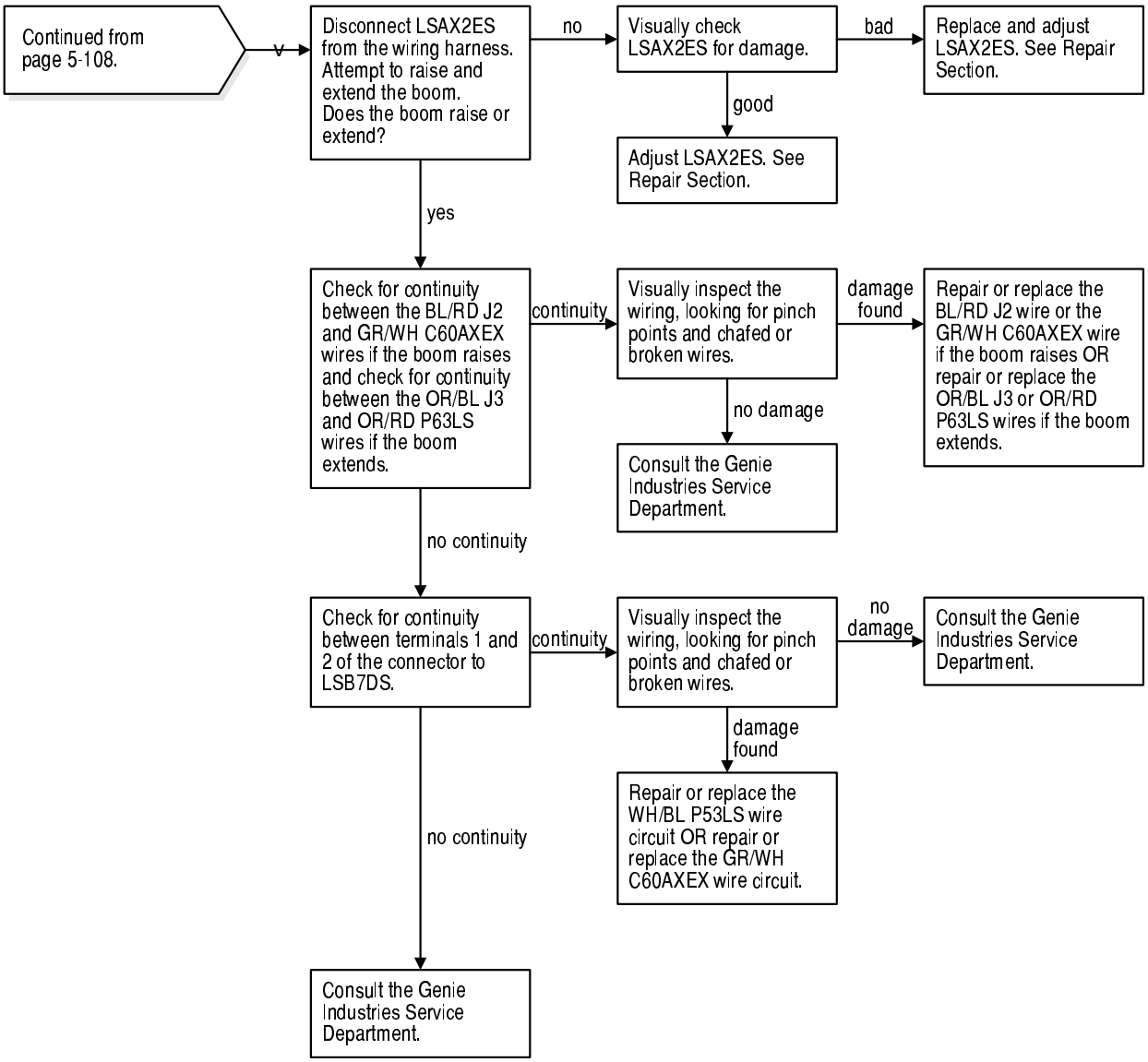

Continued from page 5-108.
Disconnect LSAX2ES from the wiring harness. Attempt to raise and extend the boom. Does the boom raise or extend?
no
Visually check LSAX2ES for damage.
bad
Replace and adjust LSAX2ES. See Repair Section.
good
Adjust LSAX2ES. See Repair Section.
yes
Check for continuity between the BL/RD J2 and GR/WH C60AXEX wires if the boom raises and check for continuity between the OR/BL J3 and OR/RD P63LS wires if the boom extends.
continuity
Visually inspect the wiring, looking for pinch points and chafed or broken wires.
damage found
Repair or replace the BL/RD J2 wire or the GR/WH C60AXEX wire if the boom raises OR repair or replace the OR/BL J3 or OR/RD P63LS wires if the boom extends.
no damage
Consult the Genie Industries Service Department.
no continuity
Check for continuity between terminals 1 and 2 of the connector to LSB7DS.
continuity
Visually inspect the wiring, looking for pinch points and chafed or broken wires.
no damage
Consult the Genie Industries Service Department.
damage found
Repair or replace the WH/BL P53LS wire circuit OR repair or replace the GR/WH C60AXEX wire circuit.
no continuity
Consult the Genie Industries Service Department.

CHART 21

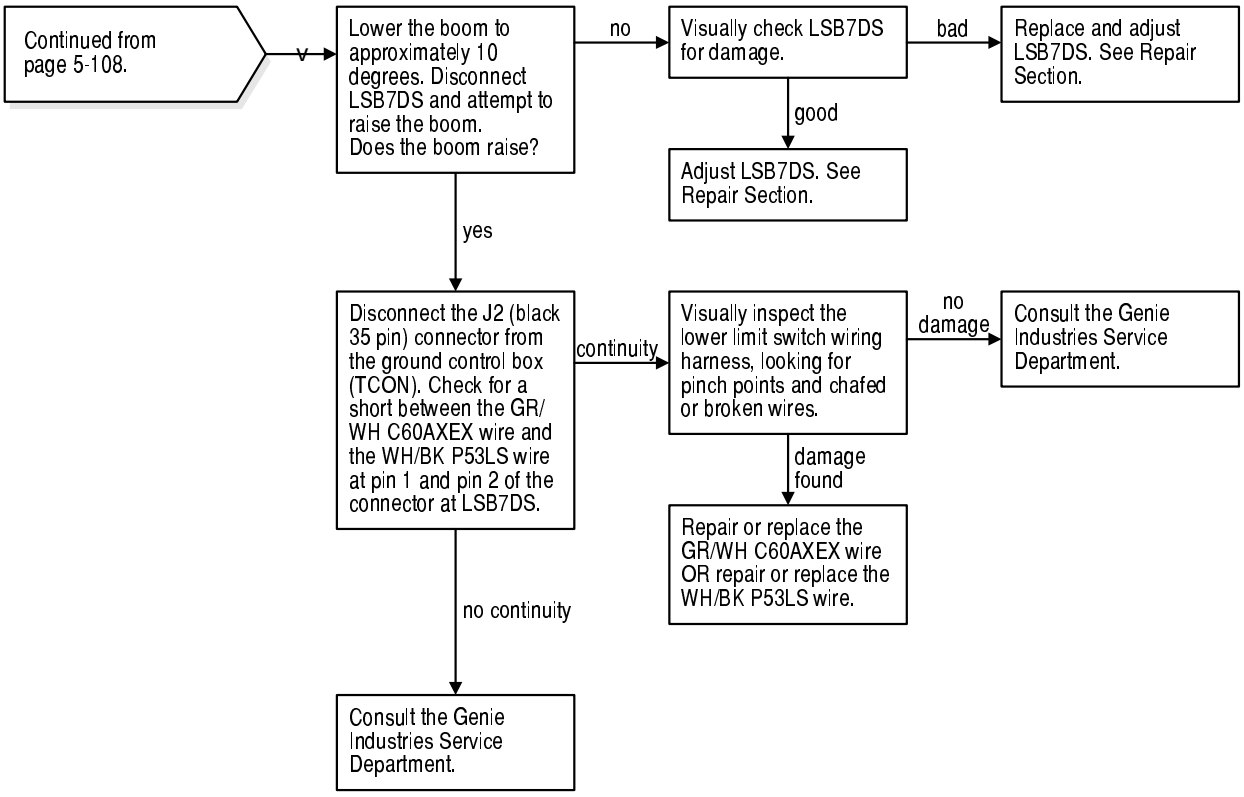

Continued from page 5-108.
Lower the boom to approximately 10 degrees. Disconnect LSB7DS and attempt to raise the boom. Does the boom raise?
no
Visually check LSB7DS for damage.
bad
Replace and adjust LSB7DS. See Repair Section.
good
Adjust LSB7DS. See Repair Section.
yes
Disconnect the J2 (black 35 pin) connector from the ground control box (TCON). Check for a short between the GR/WH C60AXEX wire and the WH/BK P53LS wire at pin 1 and pin 2 of the connector at LSB7DS.
continuity
Visually inspect the lower limit switch wiring harness, looking for pinch points and chafed or broken wires.
no damage
Consult the Genie Industries Service Department.
damage found
Repair or replace the GR/WH C60AXEX wire OR repair or replace the WH/BK P53LS wire.
no continuity
Consult the Genie Industries Service Department.

CHART 21

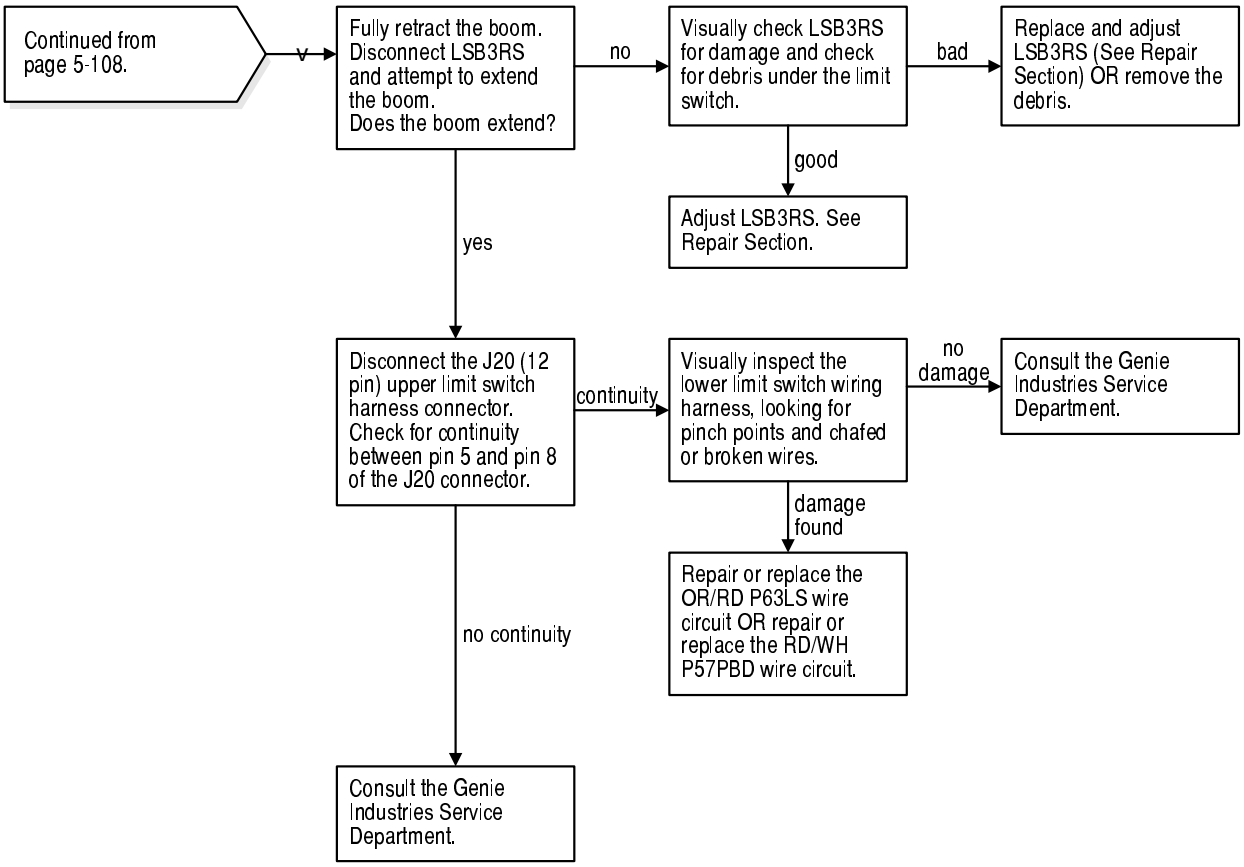

Continued from page 5-108.
Fully retract the boom. Disconnect LSB3RS and attempt to extend the boom. Does the boom extend?
no
Visually check LSB3RS for damage and check for debris under the limit switch.
bad
Replace and adjust LSB3RS (See Repair Section) OR remove the debris.
good
Adjust LSB3RS. See Repair Section.
yes
Disconnect the J20 (12 pin) upper limit switch harness connector. Check for continuity between pin 5 and pin 8 of the J20 connector.
continuity
Visually inspect the lower limit switch wiring harness, looking for pinch points and chafed or broken wires.
no damage
Consult the Genie Industries Service Department.
damage found
Repair or replace the OR/RD P63LS wire circuit OR repair or replace the RD/WH P57PBD wire circuit.
no continuity
Consult the Genie Industries Service Department.

CHART 21

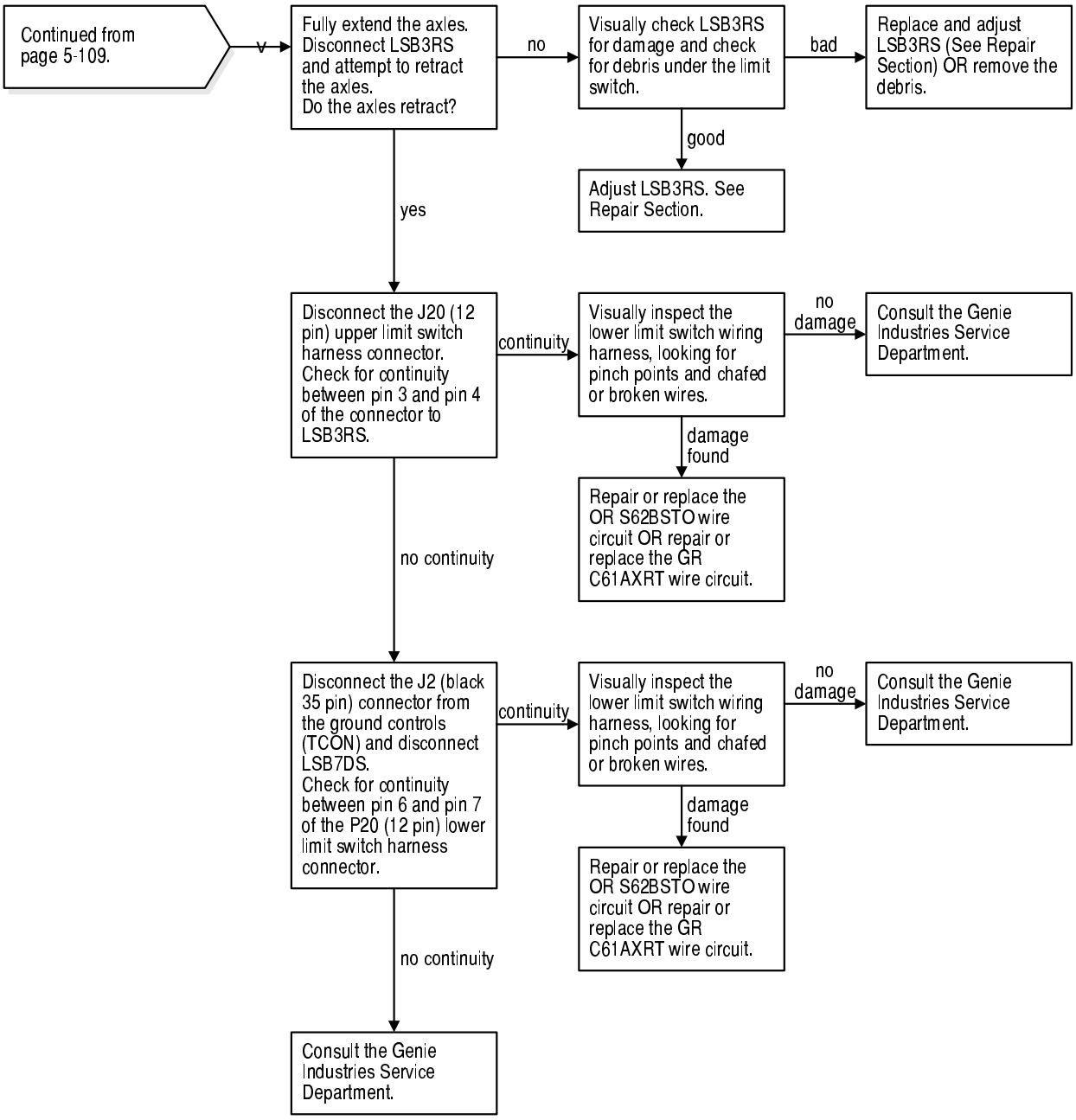

Continued from page 5-109.
Fully extend the axles. Disconnect LSB3RS and attempt to retract the axles. Do the axles retract?
no
Visually check LSB3RS for damage and check for debris under the limit switch.
bad
Replace and adjust LSB3RS (See Repair Section) OR remove the debris.
good
Adjust LSB3RS. See Repair Section.
yes
Disconnect the J20 (12 pin) upper limit switch harness connector. Check for continuity between pin 3 and pin 4 of the connector to LSB3RS.
continuity
Visually inspect the lower limit switch wiring harness, looking for pinch points and chafed or broken wires.
no damage
Consult the Genie Industries Service Department.
damage found
Repair or replace the OR S62BSTO wire circuit OR repair or replace the GR C61AXRT wire circuit.
no continuity
Disconnect the J2 (black 35 pin) connector from the ground controls (TCON) and disconnect LSB7DS. Check for continuity between pin 6 and pin 7 of the P20 (12 pin) lower limit switch harness connector.
continuity
Visually inspect the lower limit switch wiring harness, looking for pinch points and chafed or broken wires.
no damage
Consult the Genie Industries Service Department.
damage found
Repair or replace the OR S62BSTO wire circuit OR repair or replace the GR C61AXRT wire circuit.
no continuity
Consult the Genie Industries Service Department.

CHART 21

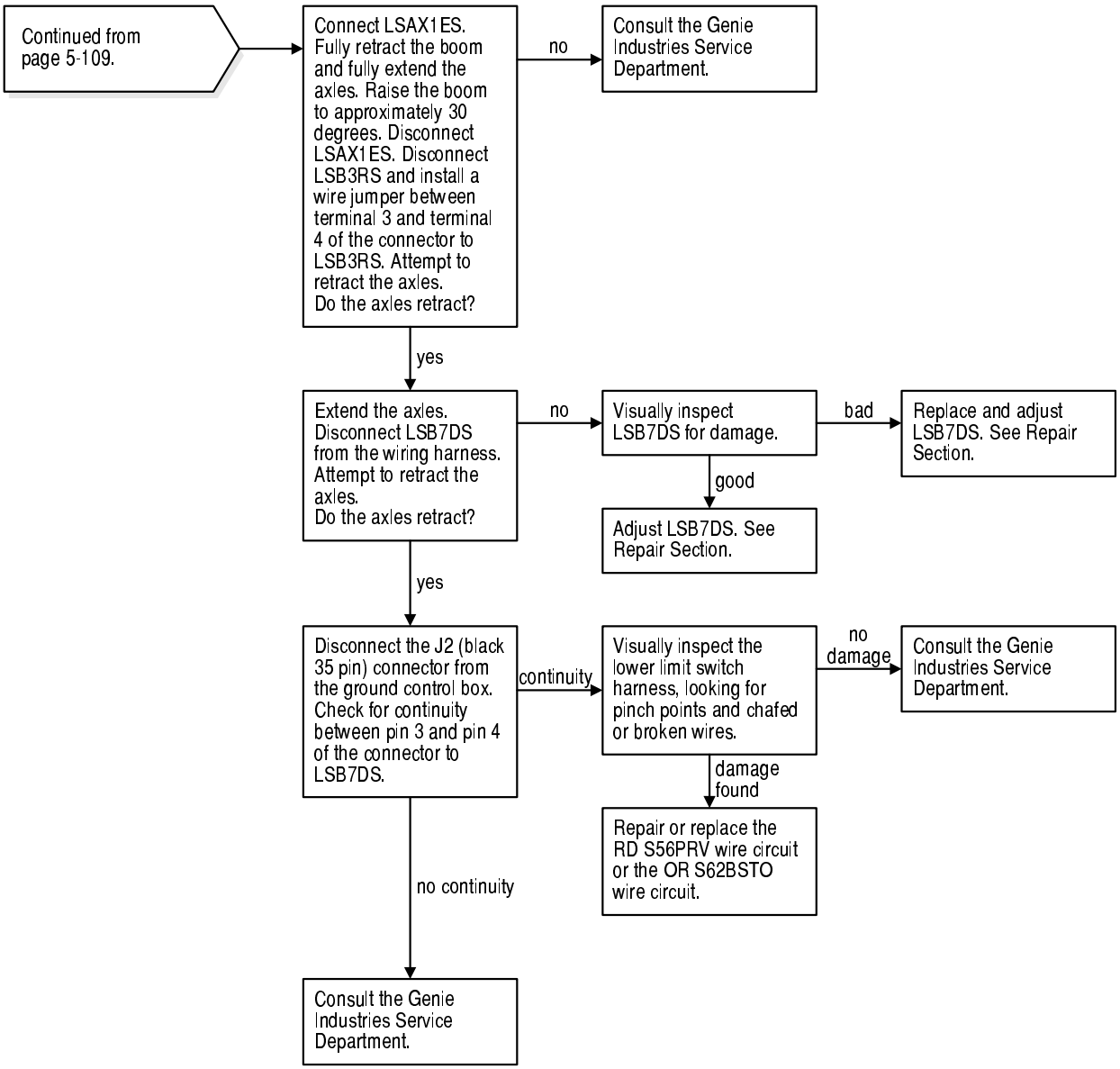

Continued from page 5-109.
Connect LSAX1ES. Fully retract the boom and fully extend the axles. Raise the boom to approximately 30 degrees. Disconnect LSAX1ES. Disconnect LSB3RS and install a wire jumper between terminal 3 and terminal 4 of the connector to LSB3RS. Attempt to retract the axles. Do the axles retract?
no
Consult the Genie Industries Service Department.
yes
Extend the axles. Disconnect LSB7DS from the wiring harness. Attempt to retract the axles. Do the axles retract?
no
Visually inspect LSB7DS for damage.
bad
Replace and adjust LSB7DS. See Repair Section.
good
Adjust LSB7DS. See Repair Section.
yes
Disconnect the J2 (black 35 pin) connector from the ground control box. Check for continuity between pin 3 and pin 4 of the connector to LSB7DS.
continuity
Visually inspect the lower limit switch harness, looking for pinch points and chafed or broken wires.
no damage
Consult the Genie Industries Service Department.
damage found
Repair or replace the RD S56PRV wire circuit or the OR S62BSTO wire circuit.
no continuity
Consult the Genie Industries Service Department.

Chart 22

Turntable Rotate Clockwise Function Inoperative

Be sure all other functions operate normally.

Be sure the axles are fully extended.

Be sure the batteries are fully charged and properly connected.

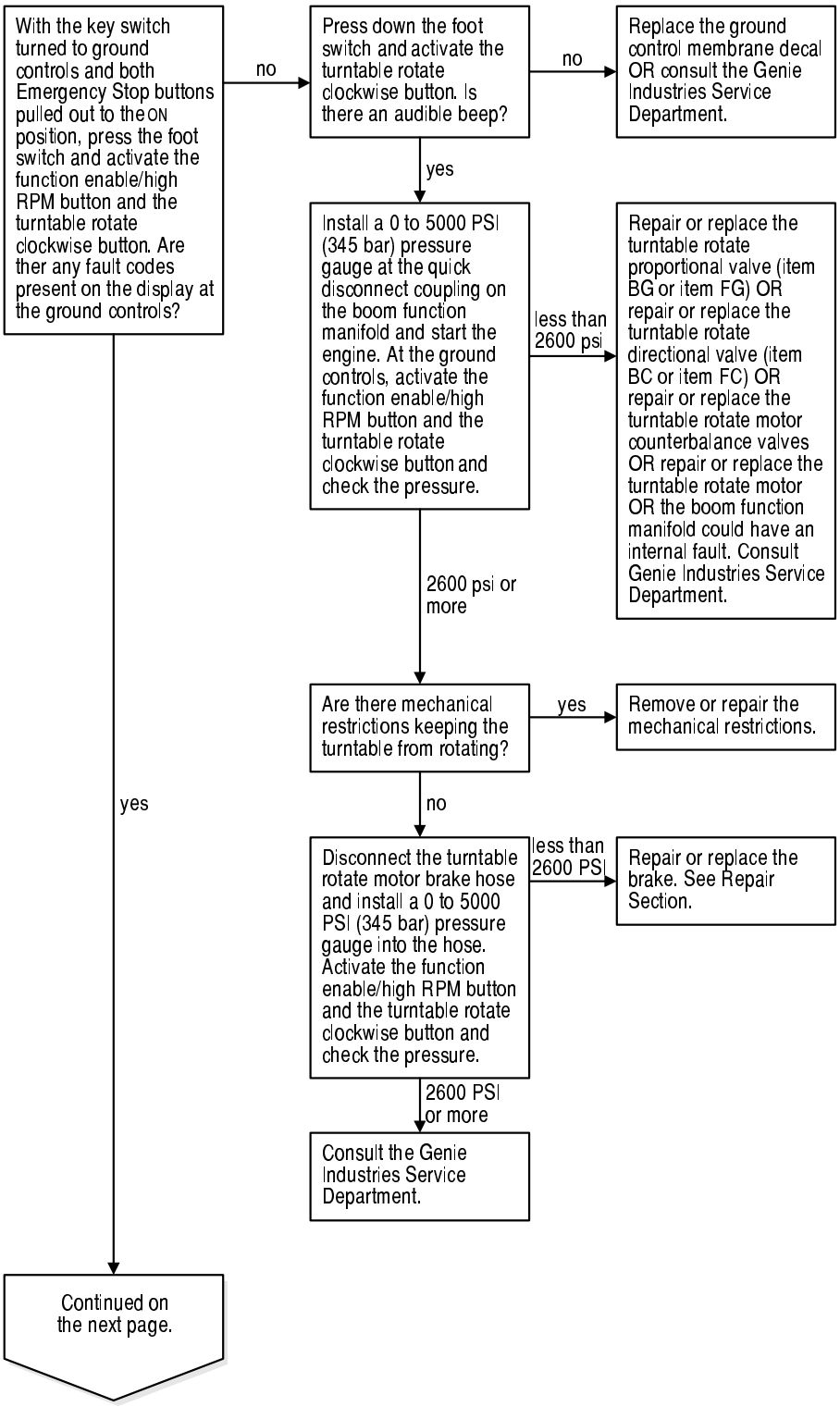

With the key switch turned to ground controls and both Emergency Stop buttons pulled out to the ON position, press the foot switch and activate the function enable/high RPM button and the turntable rotate clockwise button. Are ther any fault codes present on the display at the ground controls?
no
Press down the foot switch and activate the turntable rotate clockwise button. Is there an audible beep?
no
Replace the ground control membrane decal OR consult the Genie Industries Service Department.
yes
Install a 0 to 5000 PSI (345 bar) pressure gauge at the quick disconnect coupling on the boom function manifold and start the engine. At the ground controls, activate the function enable/high RPM button and the turntable rotate clockwise button and check the pressure.
less than 2600 psi
Repair or replace the turntable rotate proportional valve (item BG or item FG) OR repair or replace the turntable rotate directional valve (item BC or item FC) OR repair or replace the turntable rotate motor counterbalance valves OR repair or replace the turntable rotate motor OR the boom function manifold could have an internal fault. Consult Genie Industries Service Department.
2600 psi or more
Are there mechanical restrictions keeping the turntable from rotating?
yes
Remove or repair the mechanical restrictions.
no
Disconnect the turntable rotate motor brake hose and install a 0 to 5000 PSI (345 bar) pressure gauge into the hose. Activate the function enable/high RPM button and the turntable rotate clockwise button and check the pressure.
less than 2600 PSI
Repair or replace the brake. See Repair Section.
2600 PSI or more
Consult the Genie Industries Service Department.
yes
Continued on the next page.

CHART 22

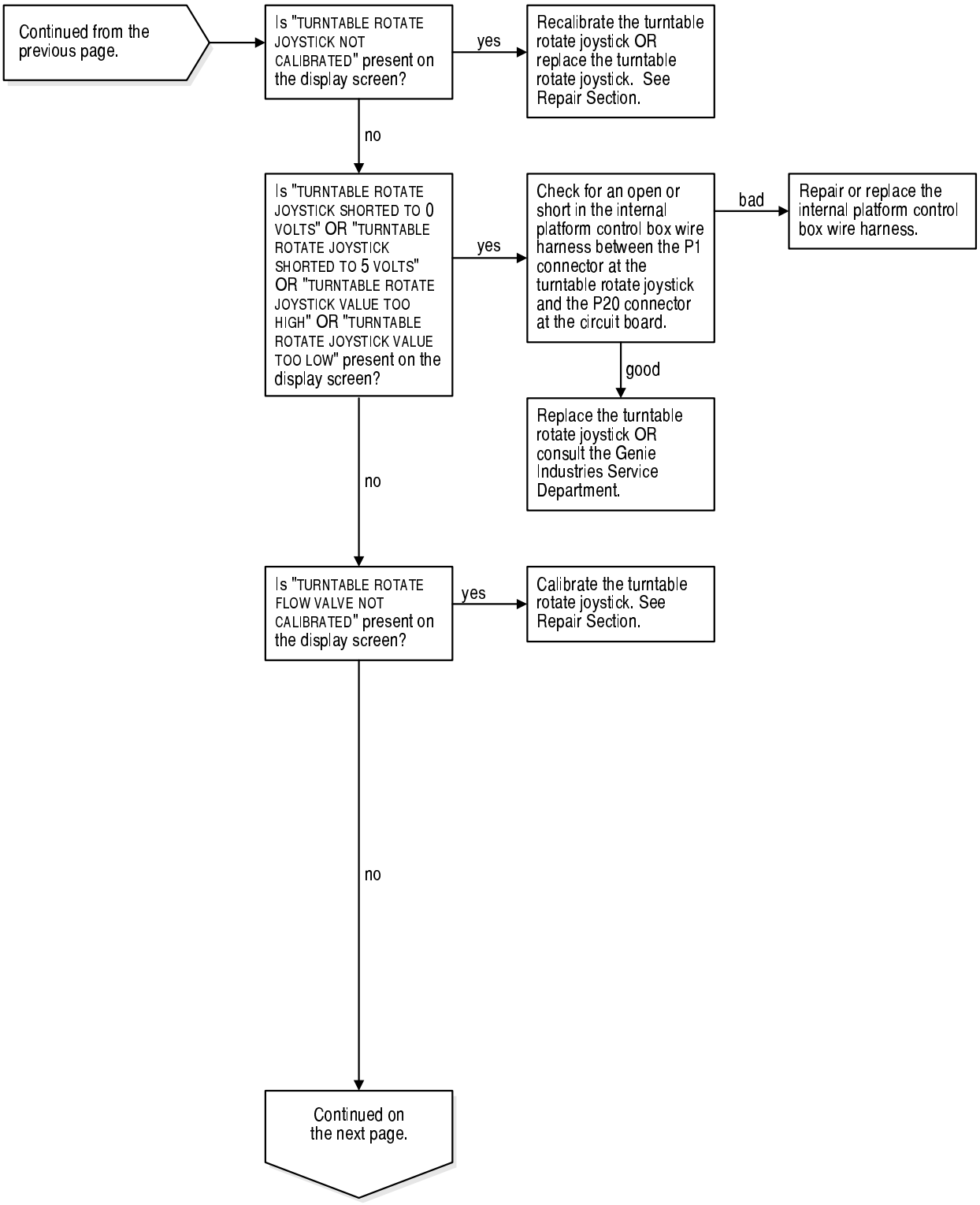

Continued from the previous page.
Is "TURNTABLE ROTATE JOYSTICK NOT CALIBRATED" present on the display screen?
yes
Recalibrate the turntable rotate joystick OR replace the turntable rotate joystick. See Repair Section.
no
Is "TURNTABLE ROTATE JOYSTICK SHORTED TO 0 VOLTS" OR "TURNTABLE ROTATE JOYSTICK SHORTED TO 5 VOLTS" OR "TURNTABLE ROTATE JOYSTICK VALUE TOO HIGH" OR "TURNTABLE ROTATE JOYSTICK VALUE TOO LOW" present on the display screen?
yes
Check for an open or short in the internal platform control box wire harness between the P1 connector at the turntable rotate joystick and the P20 connector at the circuit board.
bad
Repair or replace the internal platform control box wire harness.
good
Replace the turntable rotate joystick OR consult the Genie Industries Service Department.
no
Is "TURNTABLE ROTATE FLOW VALVE NOT CALIBRATED" present on the display screen?
yes
Calibrate the turntable rotate joystick. See Repair Section.
no
Continued on the next page.

CHART 22

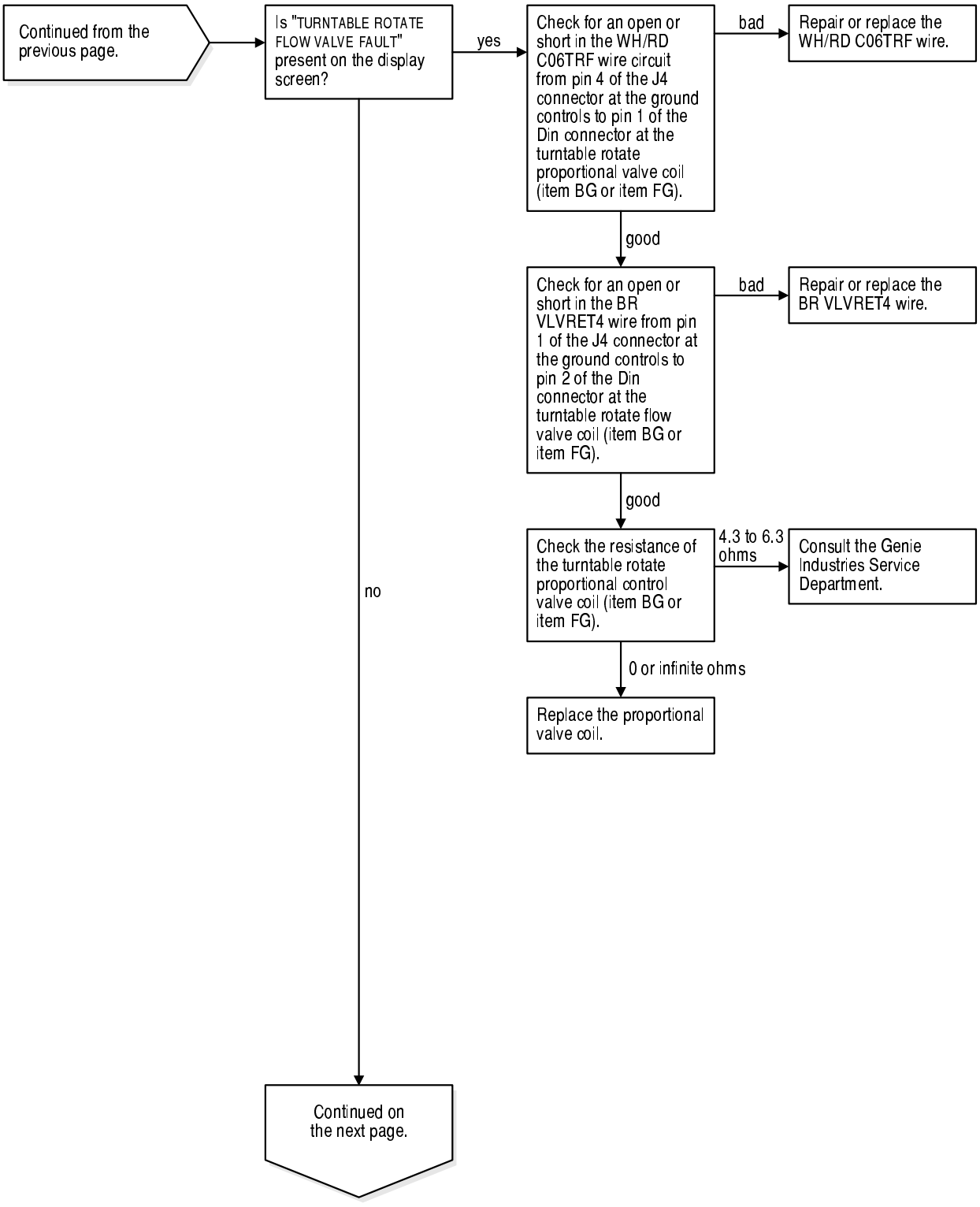

Continued from the previous page.
Is "TURNTABLE ROTATE FLOW VALVE FAULT" present on the display screen?
yes
no
Check for an open or short in the WH/RD C06TRF wire circuit from pin 4 of the J4 connector at the ground controls to pin 1 of the Din connector at the turntable rotate proportional valve coil (item BG or item FG).
bad
Repair or replace the WH/RD C06TRF wire.
good
Check for an open or short in the BR VLVRET4 wire from pin 1 of the J4 connector at the ground controls to pin 2 of the Din connector at the turntable rotate flow valve coil (item BG or item FG).
bad
Repair or replace the BR VLVRET4 wire.
good
Check the resistance of the turntable rotate proportional control valve coil (item BG or item FG).
4.3 to 6.3 ohms
Consult the Genie Industries Service Department.
0 or infinite ohms
Replace the proportional valve coil.
Continued on the next page.

CHART 22

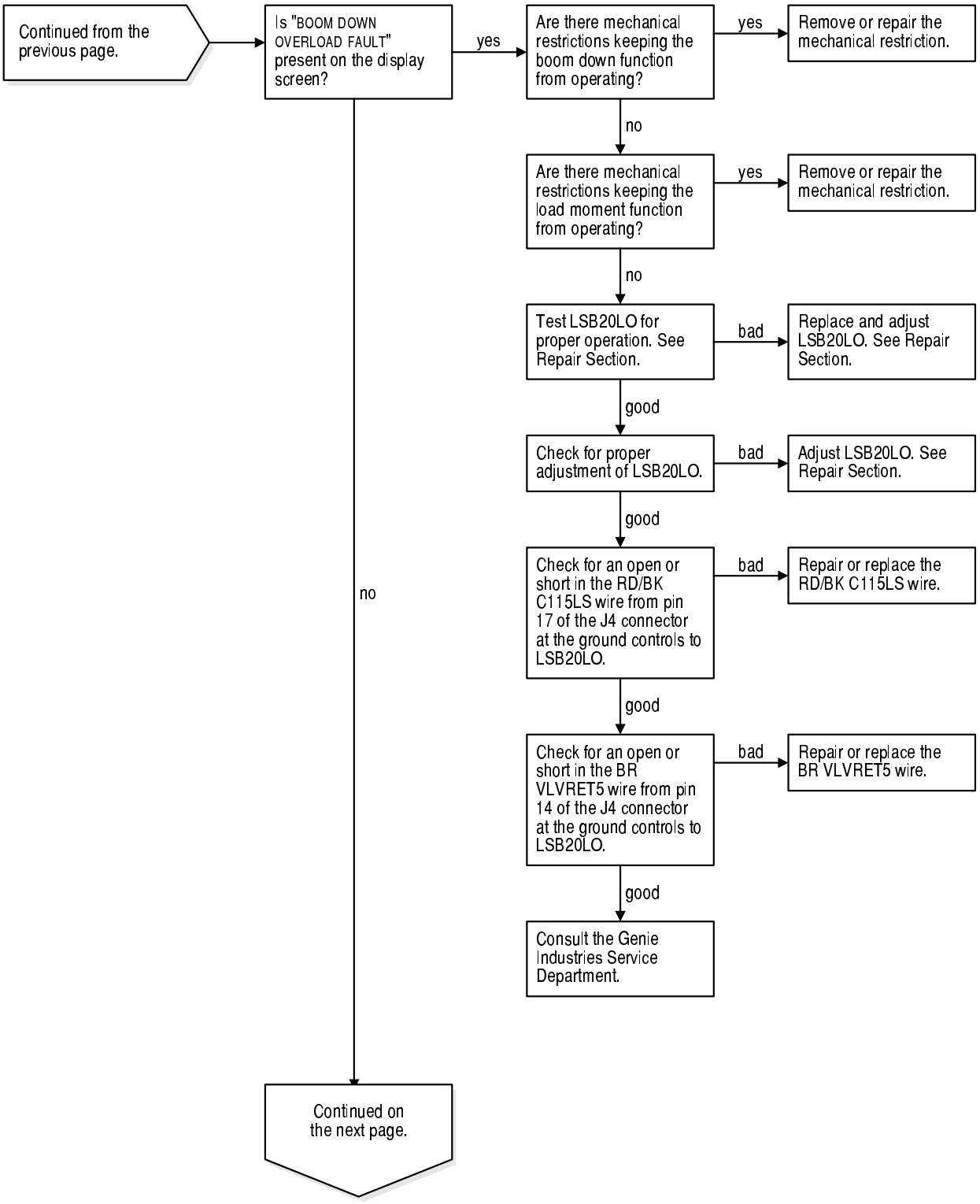

Continued from the previous page.
Is "BOOM DOWN OVERLOAD FAULT" present on the display screen?
yes
no
Are there mechanical restrictions keeping the boom down function from operating?
yes
Remove or repair the mechanical restriction.
no
Are there mechanical restrictions keeping the load moment function from operating?
yes
Remove or repair the mechanical restriction.
no
Test LSB20LO for proper operation. See Repair Section.
bad
Replace and adjust LSB20LO. See Repair Section.
good
Check for proper adjustment of LSB20LO.
bad
Adjust LSB20LO. See Repair Section.
good
Check for an open or short in the RD/BK C115LS wire from pin 17 of the J4 connector at the ground controls to LSB20LO.
bad
Repair or replace the RD/BK C115LS wire.
good
Check for an open or short in the BR VLVRET5 wire from pin 14 of the J4 connector at the ground controls to LSB20LO.
bad
Repair or replace the BR VLVRET5 wire.
good
Consult the Genie Industries Service Department.
Continued on the next page.

CHART 22

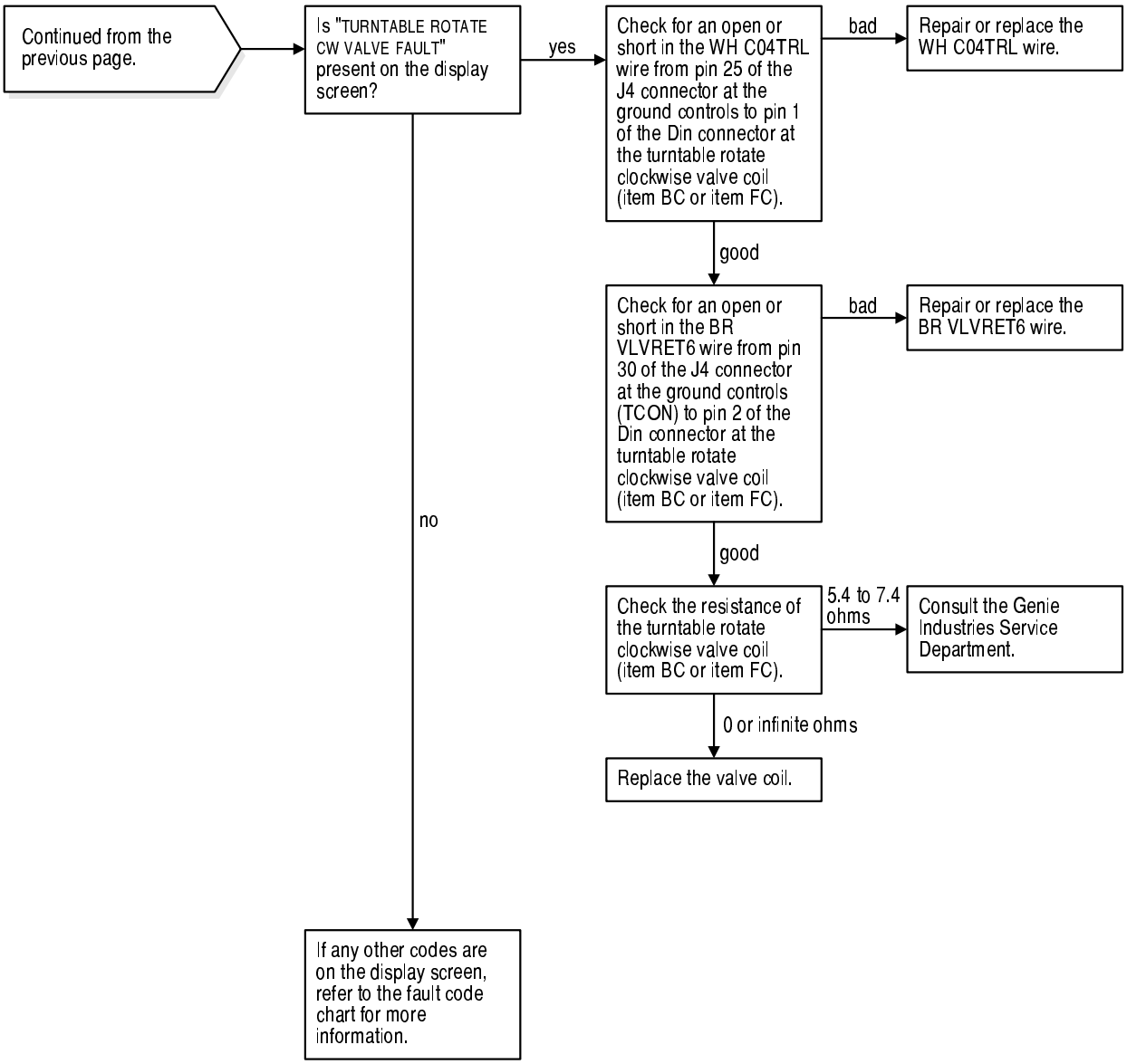

Continued from the previous page.
Is "TURNTABLE ROTATE CW VALVE FAULT" present on the display screen?
yes
no
Check for an open or short in the WH C04TRL wire from pin 25 of the J4 connector at the ground controls to pin 1 of the Din connector at the turntable rotate clockwise valve coil (item BC or item FC).
bad
Repair or replace the WH C04TRL wire.
good
Check for an open or short in the BR VLVRET6 wire from pin 30 of the J4 connector at the ground controls (TCON) to pin 2 of the Din connector at the turntable rotate clockwise valve coil (item BC or item FC).
bad
Repair or replace the BR VLVRET6 wire.
good
Check the resistance of the turntable rotate clockwise valve coil (item BC or item FC).
5.4 to 7.4 ohms
Consult the Genie Industries Service Department.
0 or infinite ohms
Replace the valve coil.
If any other codes are on the display screen, refer to the fault code chart for more information.

Chart 23

Turntable Rotate Counter Clockwise Function Inoperative

Be sure all other functions operate normally.

Be sure the axles are fully extended.

Be sure the batteries are fully charged and properly connected.

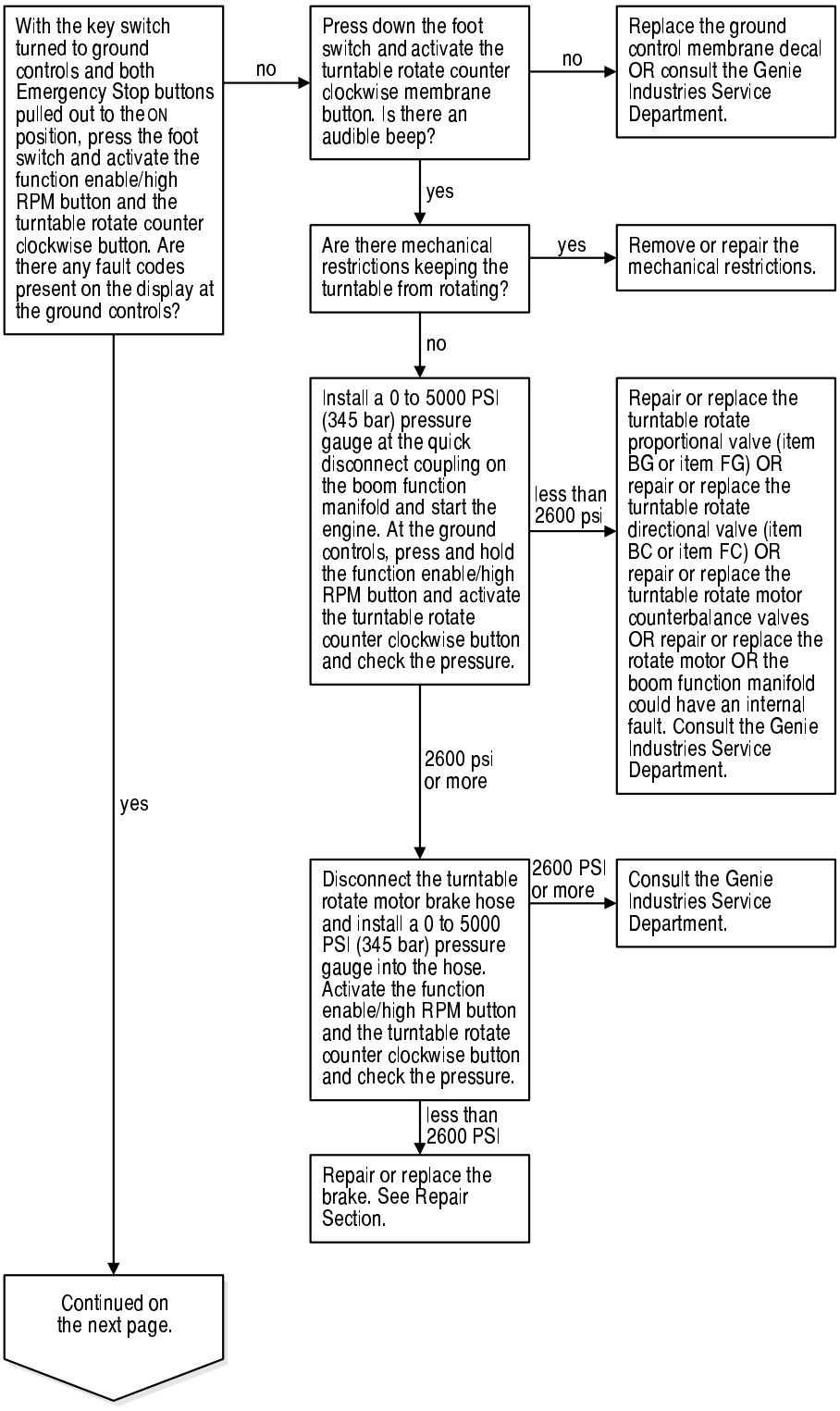

With the key switch turned to ground controls and both Emergency Stop buttons pulled out to the ON position, press the foot switch and activate the function enable/high RPM button and the turntable rotate counter clockwise button. Are there any fault codes present on the display at the ground controls?
no
Press down the foot switch and activate the turntable rotate counter clockwise membrane button. Is there an audible beep?
no
Replace the ground control membrane decal OR consult the Genie Industries Service Department.
yes
Are there mechanical restrictions keeping the turntable from rotating?
yes
Remove or repair the mechanical restrictions.
no
Install a 0 to 5000 PSI (345 bar) pressure gauge at the quick disconnect coupling on the boom function manifold and start the engine. At the ground controls, press and hold the function enable/high RPM button and activate the turntable rotate counter clockwise button and check the pressure.
less than 2600 psi
Repair or replace the turntable rotate proportional valve (item BG or item FG) OR repair or replace the turntable rotate directional valve (item BC or item FC) OR repair or replace the turntable rotate motor counterbalance valves OR repair or replace the rotate motor OR the boom function manifold could have an internal fault. Consult the Genie Industries Service Department.
2600 psi or more
yes
Disconnect the turntable rotate motor brake hose and install a 0 to 5000 PSI (345 bar) pressure gauge into the hose. Activate the function enable/high RPM button and the turntable rotate counter clockwise button and check the pressure.
2600 PSI or more
Consult the Genie Industries Service Department.
less than 2600 PSI
Repair or replace the brake. See Repair Section.
Continued on the next page.

CHART 23

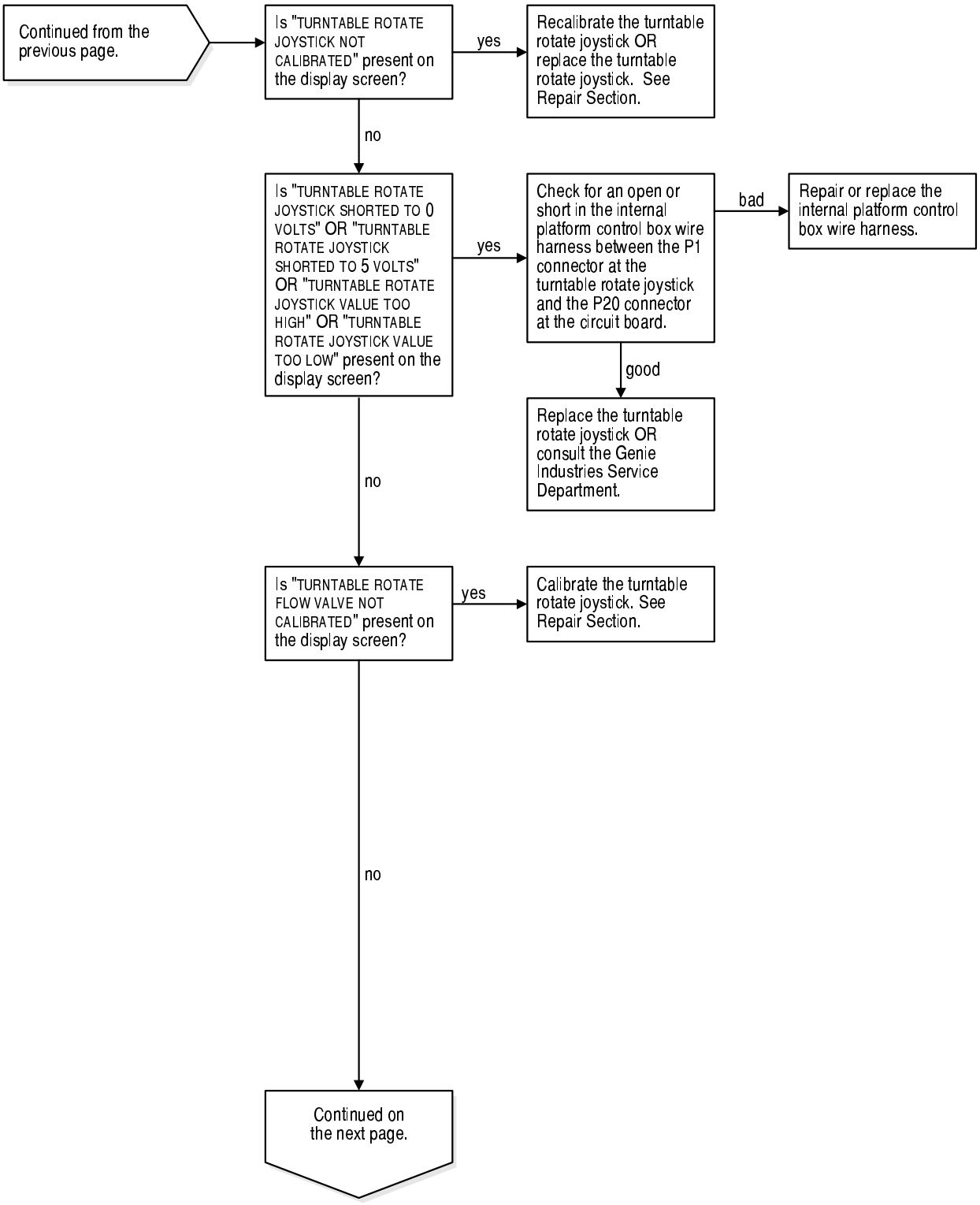

Continued from the previous page.
Is "TURNTABLE ROTATE JOYSTICK NOT CALIBRATED" present on the display screen?
yes
Recalibrate the turntable rotate joystick OR replace the turntable rotate joystick. See Repair Section.
no
Is "TURNTABLE ROTATE JOYSTICK SHORTED TO 0 VOLTS" OR "TURNTABLE ROTATE JOYSTICK SHORTED TO 5 VOLTS" OR "TURNTABLE ROTATE JOYSTICK VALUE TOO HIGH" OR "TURNTABLE ROTATE JOYSTICK VALUE TOO LOW" present on the display screen?
yes
Check for an open or short in the internal platform control box wire harness between the P1 connector at the turntable rotate joystick and the P20 connector at the circuit board.
bad
Repair or replace the internal platform control box wire harness.
good
Replace the turntable rotate joystick OR consult the Genie Industries Service Department.
no
Is "TURNTABLE ROTATE FLOW VALVE NOT CALIBRATED" present on the display screen?
yes
Calibrate the turntable rotate joystick. See Repair Section.
no
Continued on the next page.

CHART 23

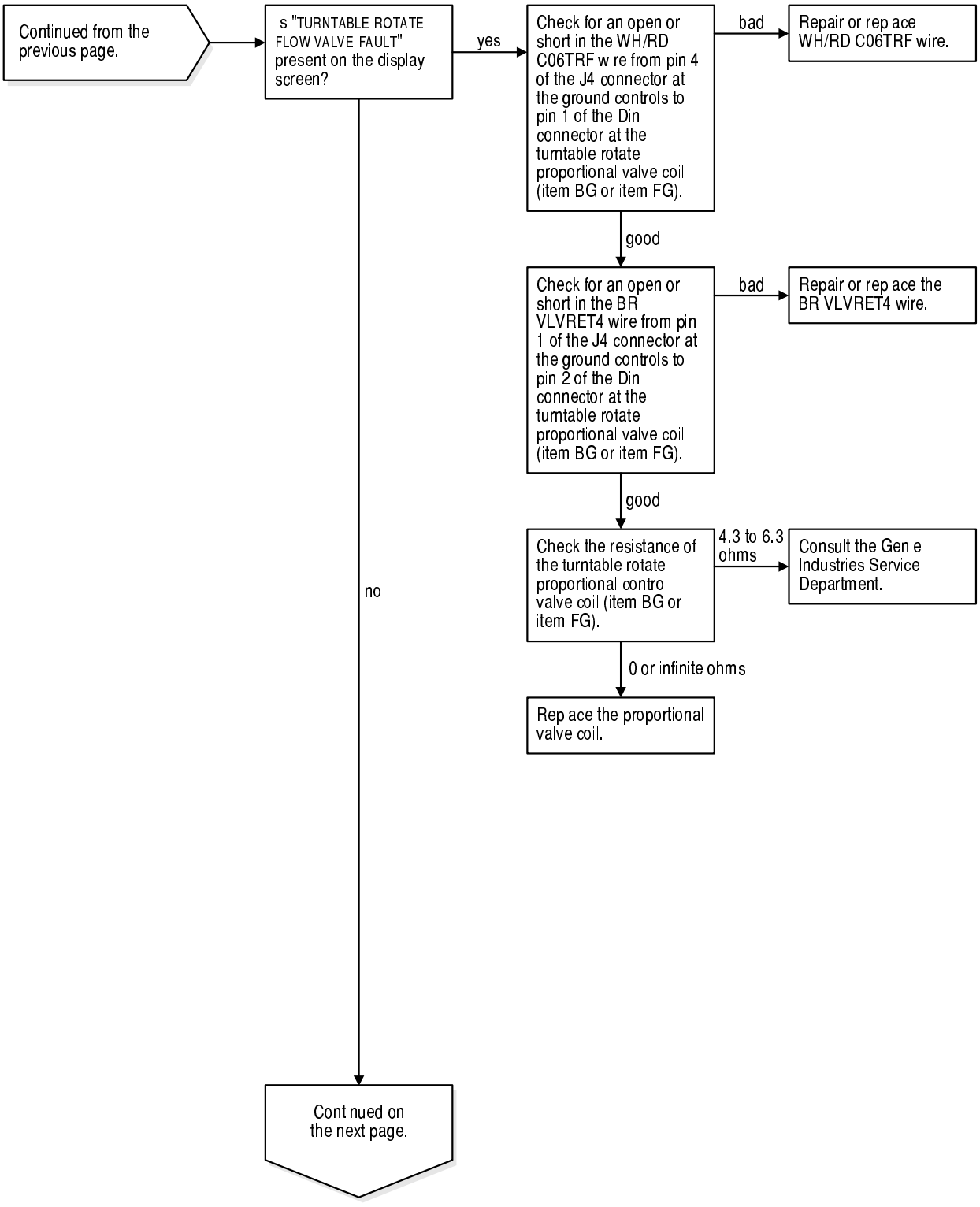

Continued from the previous page.
Is "TURNTABLE ROTATE FLOW VALVE FAULT" present on the display screen?
yes
no
Check for an open or short in the WH/RD C06TRF wire from pin 4 of the J4 connector at the ground controls to pin 1 of the Din connector at the turntable rotate proportional valve coil (item BG or item FG).
bad
Repair or replace WH/RD C06TRF wire.
good
Check for an open or short in the BR VLVRET4 wire from pin 1 of the J4 connector at the ground controls to pin 2 of the Din connector at the turntable rotate proportional valve coil (item BG or item FG).
bad
Repair or replace the BR VLVRET4 wire.
good
Check the resistance of the turntable rotate proportional control valve coil (item BG or item FG).
4.3 to 6.3 ohms
Consult the Genie Industries Service Department.
0 or infinite ohms
Replace the proportional valve coil.
Continued on the next page.

CHART 23

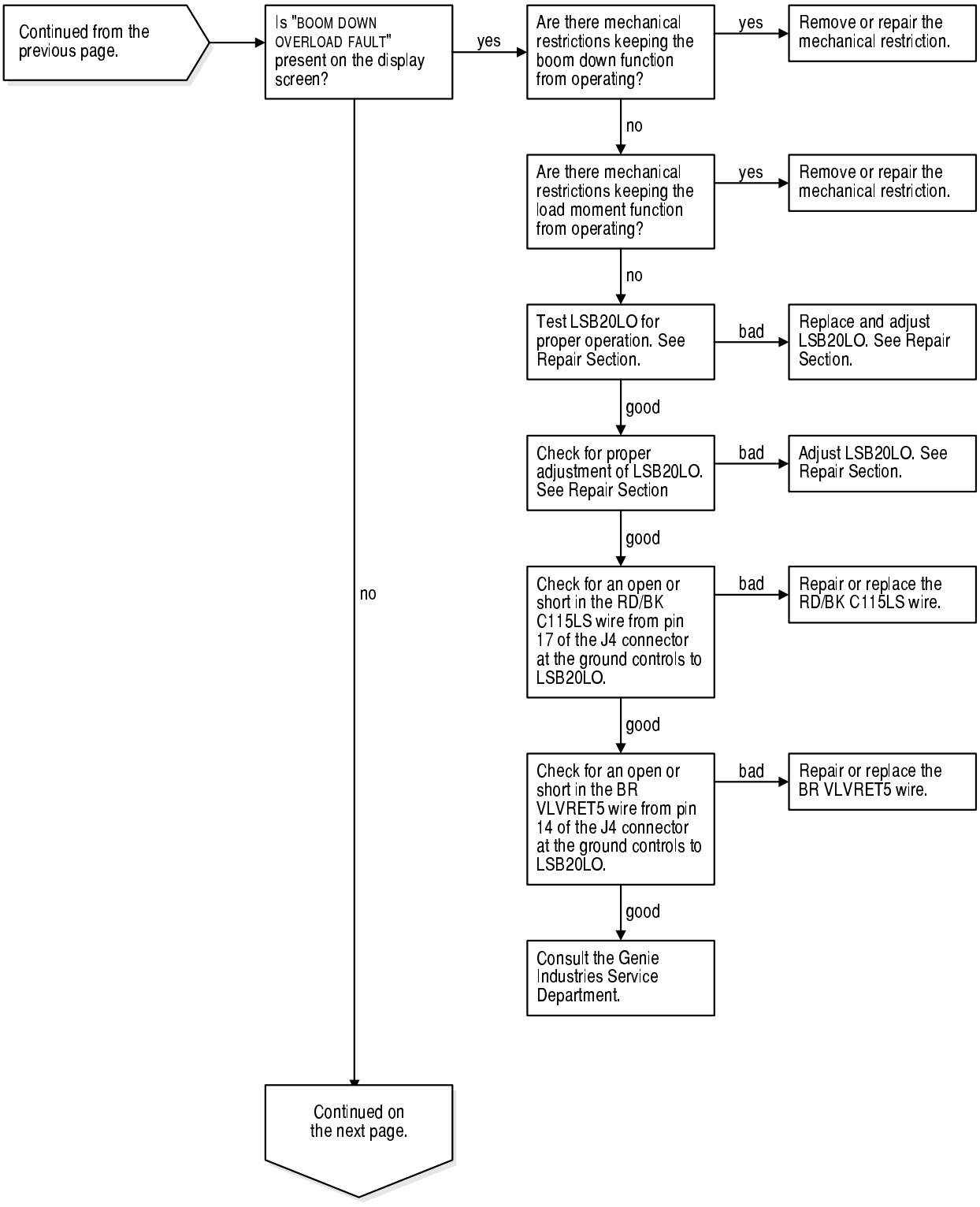

Continued from the previous page.
Is "BOOM DOWN OVERLOAD FAULT" present on the display screen?
yes
no
Are there mechanical restrictions keeping the boom down function from operating?
yes
Remove or repair the mechanical restriction.
no
Are there mechanical restrictions keeping the load moment function from operating?
yes
Remove or repair the mechanical restriction.
no
Test LSB20LO for proper operation. See Repair Section.
bad
Replace and adjust LSB20LO. See Repair Section.
good
Check for proper adjustment of LSB20LO. See Repair Section
bad
Adjust LSB20LO. See Repair Section.
good
Check for an open or short in the RD/BK C115LS wire from pin 17 of the J4 connector at the ground controls to LSB20LO.
bad
Repair or replace the RD/BK C115LS wire.
good
Check for an open or short in the BR VLVRET5 wire from pin 14 of the J4 connector at the ground controls to LSB20LO.
bad
Repair or replace the BR VLVRET5 wire.
good
Consult the Genie Industries Service Department.
Continued on the next page.

CHART 23

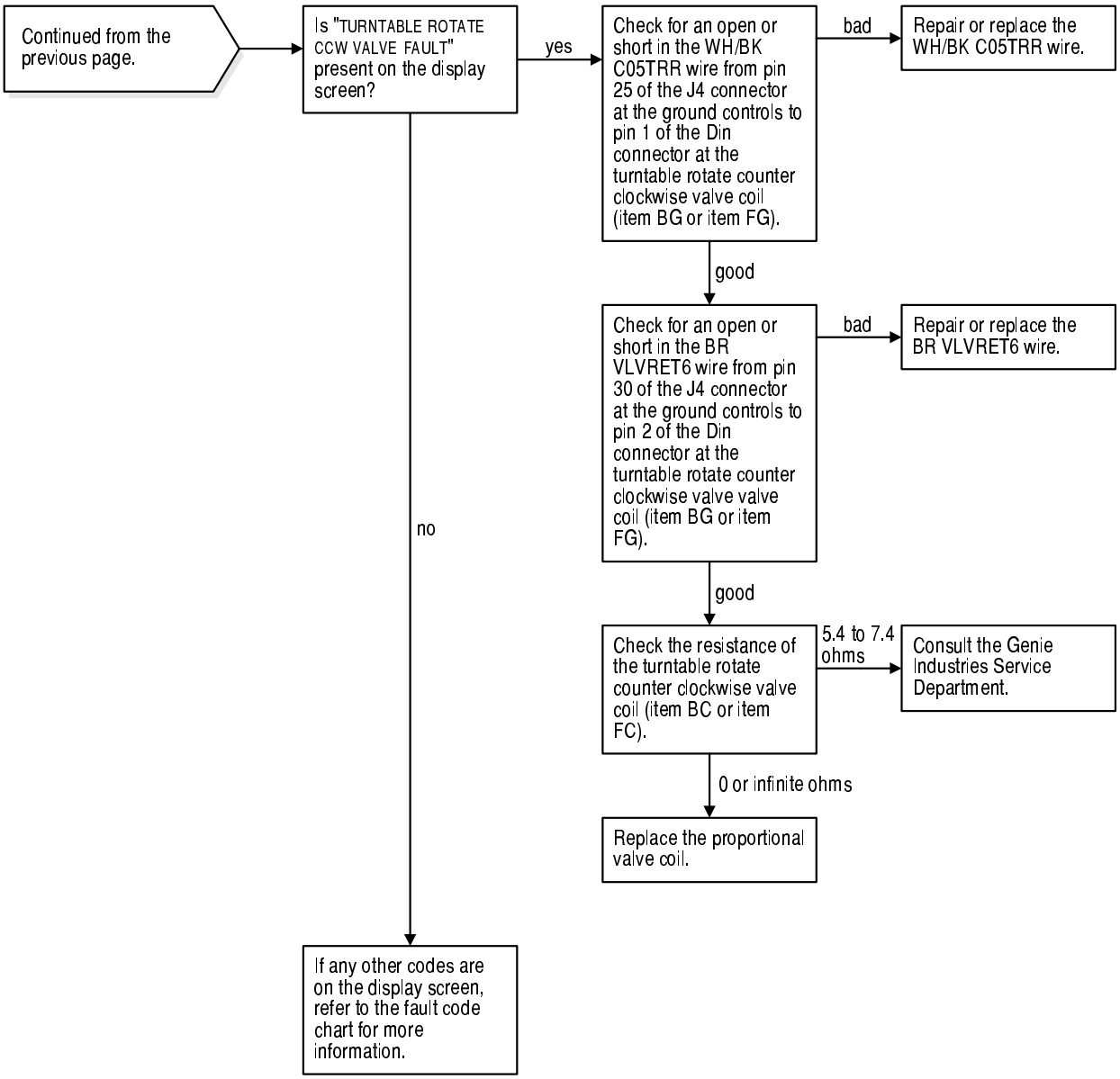

Continued from the previous page.
Is "TURNTABLE ROTATE CCW VALVE FAULT" present on the display screen?
yes
no
Check for an open or short in the WH/BK C05TRR wire from pin 25 of the J4 connector at the ground controls to pin 1 of the Din connector at the turntable rotate counter clockwise valve coil (item BG or item FG).
bad
Repair or replace the WH/BK C05TRR wire.
good
Check for an open or short in the BR VLVRET6 wire from pin 30 of the J4 connector at the ground controls to pin 2 of the Din connector at the turntable rotate counter clockwise valve valve coil (item BG or item FG).
bad
Repair or replace the BR VLVRET6 wire.
good
Check the resistance of the turntable rotate counter clockwise valve coil (item BC or item FC).
5.4 to 7.4 ohms
Consult the Genie Industries Service Department.
0 or infinite ohms
Replace the proportional valve coil.
If any other codes are on the display screen, refer to the fault code chart for more information.

Chart 24

Platform Level Function Inoperative

Be sure all other functions operate normally.

Be sure the platform out of level LED and ICON are not flashing at the ground control box.

Be sure the batteries are fully charged and properly connected.

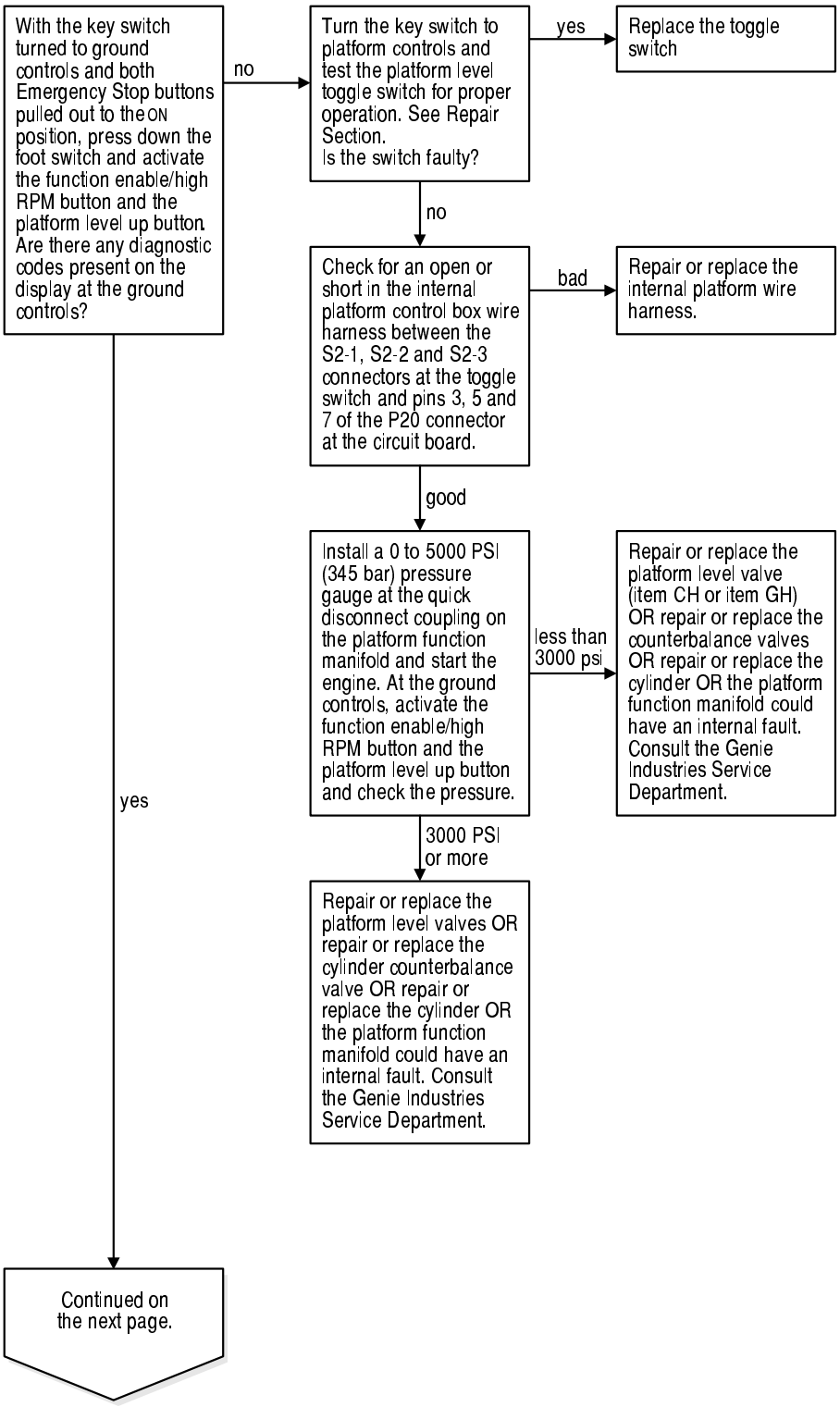

With the key switch turned to ground controls and both Emergency Stop buttons pulled out to the ON position, press down the foot switch and activate the function enable/high RPM button and the platform level up button. Are there any diagnostic codes present on the display at the ground controls?
no
Turn the key switch to platform controls and test the platform level toggle switch for proper operation. See Repair Section. Is the switch faulty?
yes
Replace the toggle switch
no
Check for an open or short in the internal platform control box wire harness between the S2-1, S2-2 and S2-3 connectors at the toggle switch and pins 3, 5 and 7 of the P20 connector at the circuit board.
bad
Repair or replace the internal platform wire harness.
good
Install a 0 to 5000 PSI (345 bar) pressure gauge at the quick disconnect coupling on the platform function manifold and start the engine. At the ground controls, activate the function enable/high RPM button and the platform level up button and check the pressure.
less than 3000 psi
Repair or replace the platform level valve (item CH or item GH) OR repair or replace the counterbalance valves OR repair or replace the cylinder OR the platform function manifold could have an internal fault. Consult the Genie Industries Service Department.
3000 PSI or more
Repair or replace the platform level valves OR repair or replace the cylinder counterbalance valve OR repair or replace the cylinder OR the platform function manifold could have an internal fault. Consult the Genie Industries Service Department.
yes
Continued on the next page.

CHART 24

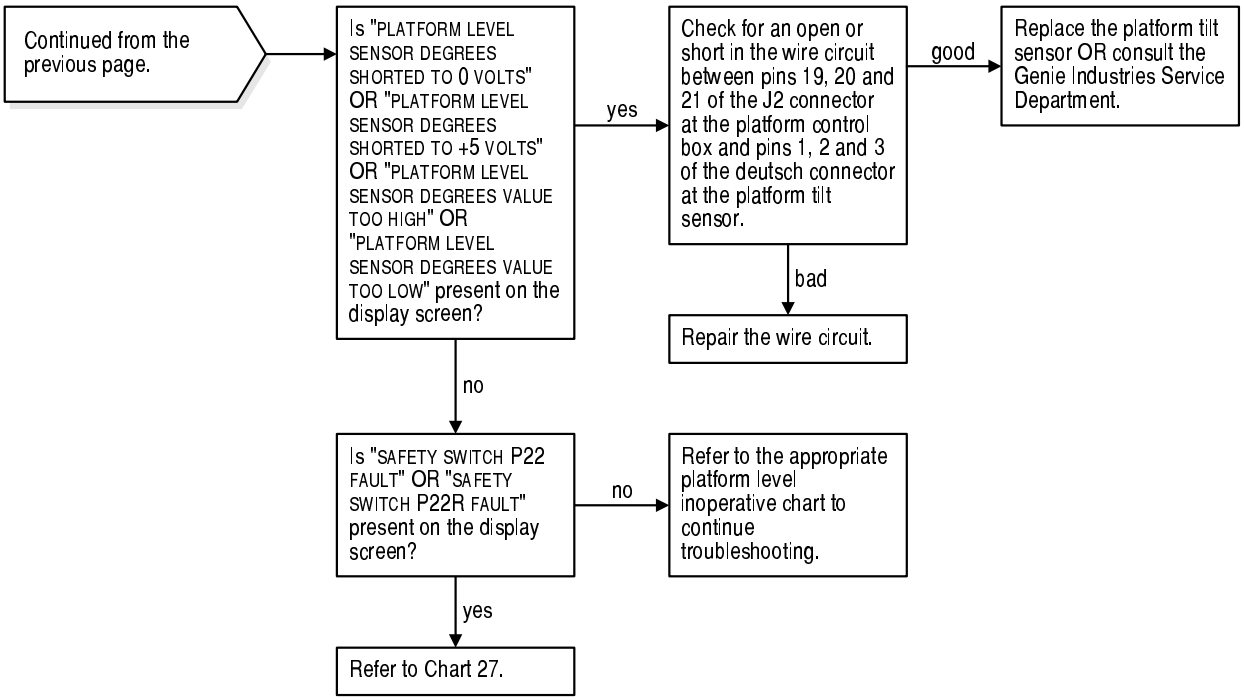

Continued from the previous page.
Is "PLATFORM LEVEL SENSOR DEGREES SHORTED TO 0 VOLTS" OR "PLATFORM LEVEL SENSOR DEGREES SHORTED TO +5 VOLTS" OR "PLATFORM LEVEL SENSOR DEGREES VALUE TOO HIGH" OR "PLATFORM LEVEL SENSOR DEGREES VALUE TOO LOW" present on the display screen?
yes
Check for an open or short in the wire circuit between pins 19, 20 and 21 of the J2 connector at the platform control box and pins 1, 2 and 3 of the deutsch connector at the platform tilt sensor.
good
Replace the platform tilt sensor OR consult the Genie Industries Service Department.
bad
Repair the wire circuit.
no
Is "SAFETY SWITCH P22 FAULT" OR "SAFETY SWITCH P22R FAULT" present on the display screen?
no
Refer to the appropriate platform level inoperative chart to continue troubleshooting.
yes
Refer to Chart 27.

Chart 25

Platform Level Up Function Inoperative

Be sure all other functions operate normally.

Be sure the platform out of level LED and ICON are not flashingat the ground control box.

Be sure the batteries are fully charged and properly connected.

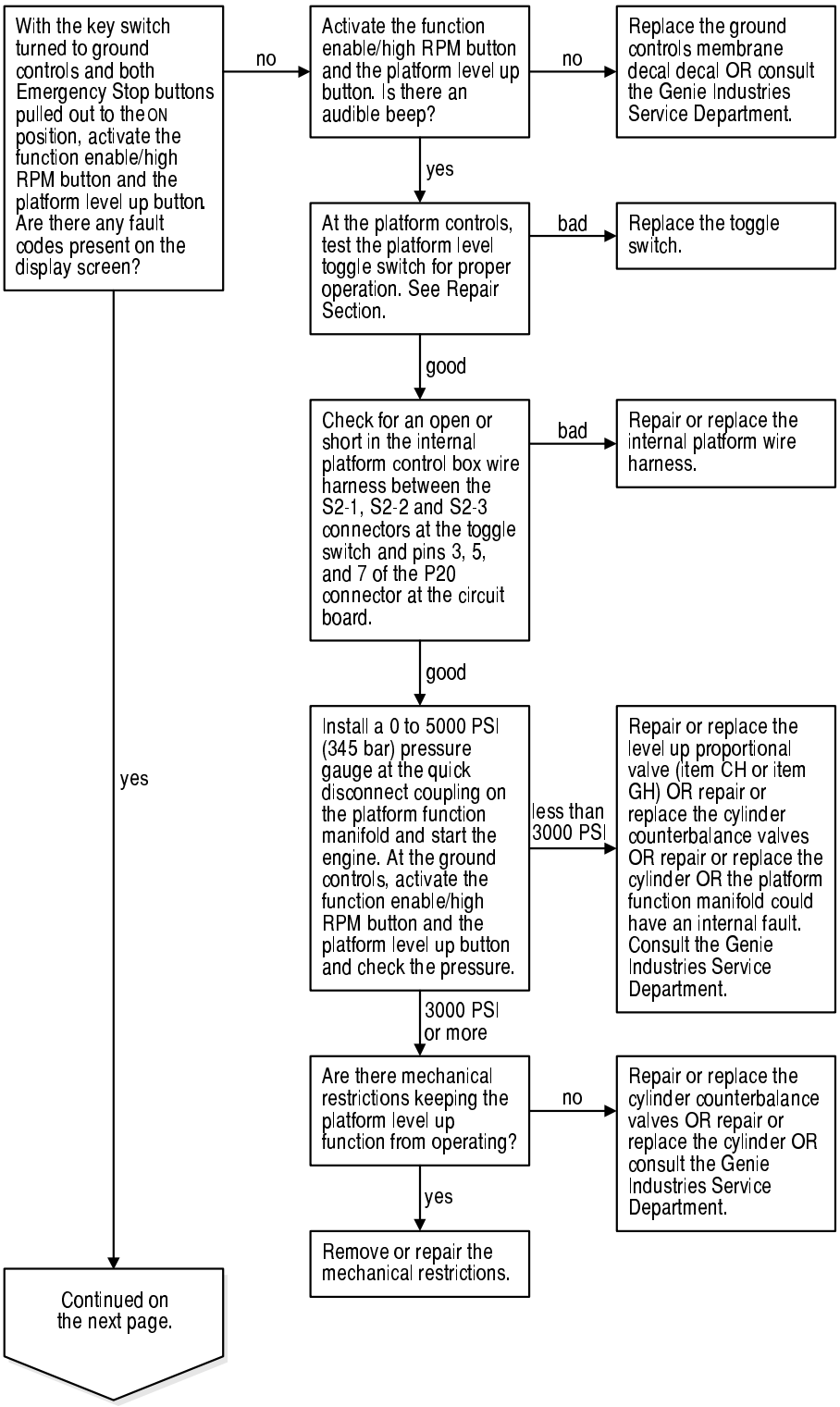

With the key switch turned to ground controls and both Emergency Stop buttons pulled out to the ON position, activate the function enable/high RPM button and the platform level up button. Are there any fault codes present on the display screen?
no
Activate the function enable/high RPM button and the platform level up button. Is there an audible beep?
no
Replace the ground controls membrane decal decal OR consult the Genie Industries Service Department.
yes
At the platform controls, test the platform level toggle switch for proper operation. See Repair Section.
bad
Replace the toggle switch.
good
Check for an open or short in the internal platform control box wire harness between the S2-1, S2-2 and S2-3 connectors at the toggle switch and pins 3, 5, and 7 of the P20 connector at the circuit board.
bad
Repair or replace the internal platform wire harness.
good
Install a 0 to 5000 PSI (345 bar) pressure gauge at the quick disconnect coupling on the platform function manifold and start the engine. At the ground controls, activate the function enable/high RPM button and the platform level up button and check the pressure.
less than 3000 PSI
Repair or replace the level up proportional valve (item CH or item GH) OR repair or replace the cylinder counterbalance valves OR repair or replace the cylinder OR the platform function manifold could have an internal fault. Consult the Genie Industries Service Department.
3000 PSI or more
Are there mechanical restrictions keeping the platform level up function from operating?
no
Repair or replace the cylinder counterbalance valves OR repair or replace the cylinder OR consult the Genie Industries Service Department.
yes
Remove or repair the mechanical restrictions.
yes
Continued on the next page.

CHART 25

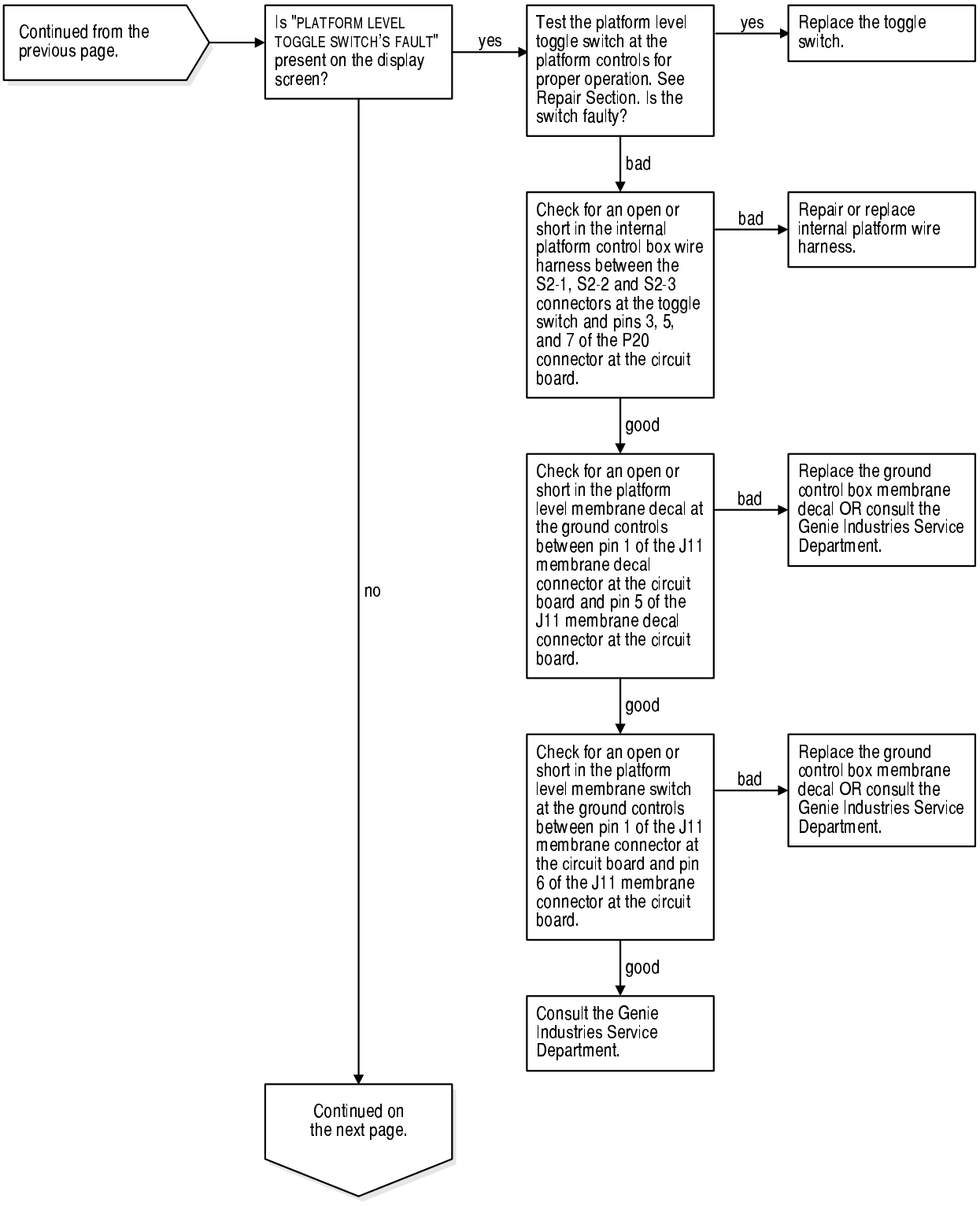

Continued from the previous page.
Is "PLATFORM LEVEL TOGGLE SWITCH'S FAULT" present on the display screen?
yes
no
Test the platform level toggle switch at the platform controls for proper operation. See Repair Section. Is the switch faulty?
yes
Replace the toggle switch.
bad
Check for an open or short in the internal platform control box wire harness between the S2-1, S2-2 and S2-3 connectors at the toggle switch and pins 3, 5, and 7 of the P20 connector at the circuit board.
bad
Repair or replace internal platform wire harness.
good
Check for an open or short in the platform level membrane decal at the ground controls between pin 1 of the J11 membrane decal connector at the circuit board and pin 5 of the J11 membrane decal connector at the circuit board.
bad
Replace the ground control box membrane decal OR consult the Genie Industries Service Department.
good
Check for an open or short in the platform level membrane switch at the ground controls between pin 1 of the J11 membrane connector at the circuit board and pin 6 of the J11 membrane connector at the circuit board.
bad
Replace the ground control box membrane decal OR consult the Genie Industries Service Department.
good
Consult the Genie Industries Service Department.
Continued on the next page.

CHART 25

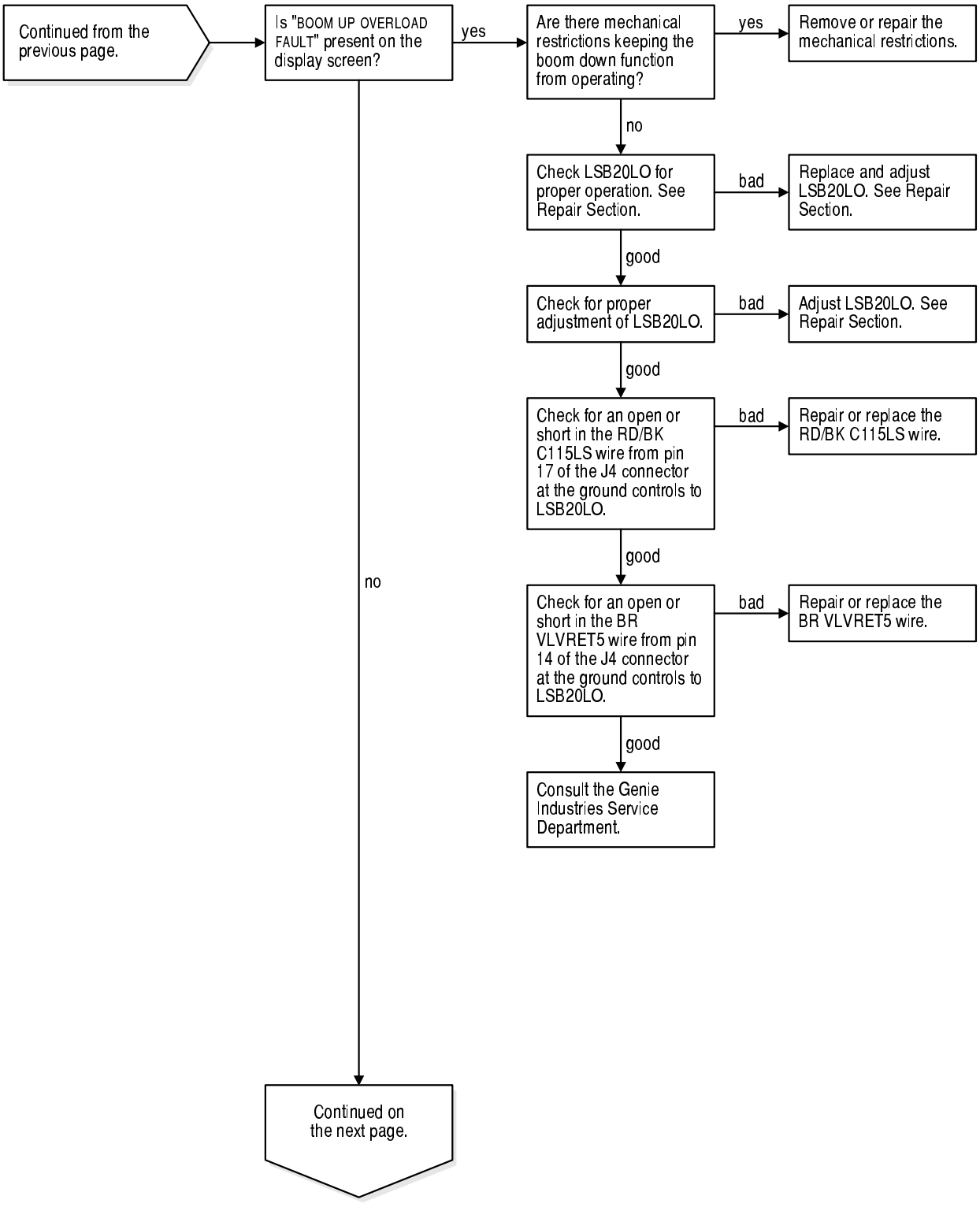

Continued from the previous page.
Is "BOOM UP OVERLOAD FAULT" present on the display screen?
yes
no
Are there mechanical restrictions keeping the boom down function from operating?
yes
Remove or repair the mechanical restrictions.
no
Check LSB20LO for proper operation. See Repair Section.
bad
Replace and adjust LSB20LO. See Repair Section.
good
Check for proper adjustment of LSB20LO.
bad
Adjust LSB20LO. See Repair Section.
good
Check for an open or short in the RD/BK C115LS wire from pin 17 of the J4 connector at the ground controls to LSB20LO.
bad
Repair or replace the RD/BK C115LS wire.
good
Check for an open or short in the BR VLVRET5 wire from pin 14 of the J4 connector at the ground controls to LSB20LO.
bad
Repair or replace the BR VLVRET5 wire.
good
Consult the Genie Industries Service Department.
Continued on the next page.

CHART 25

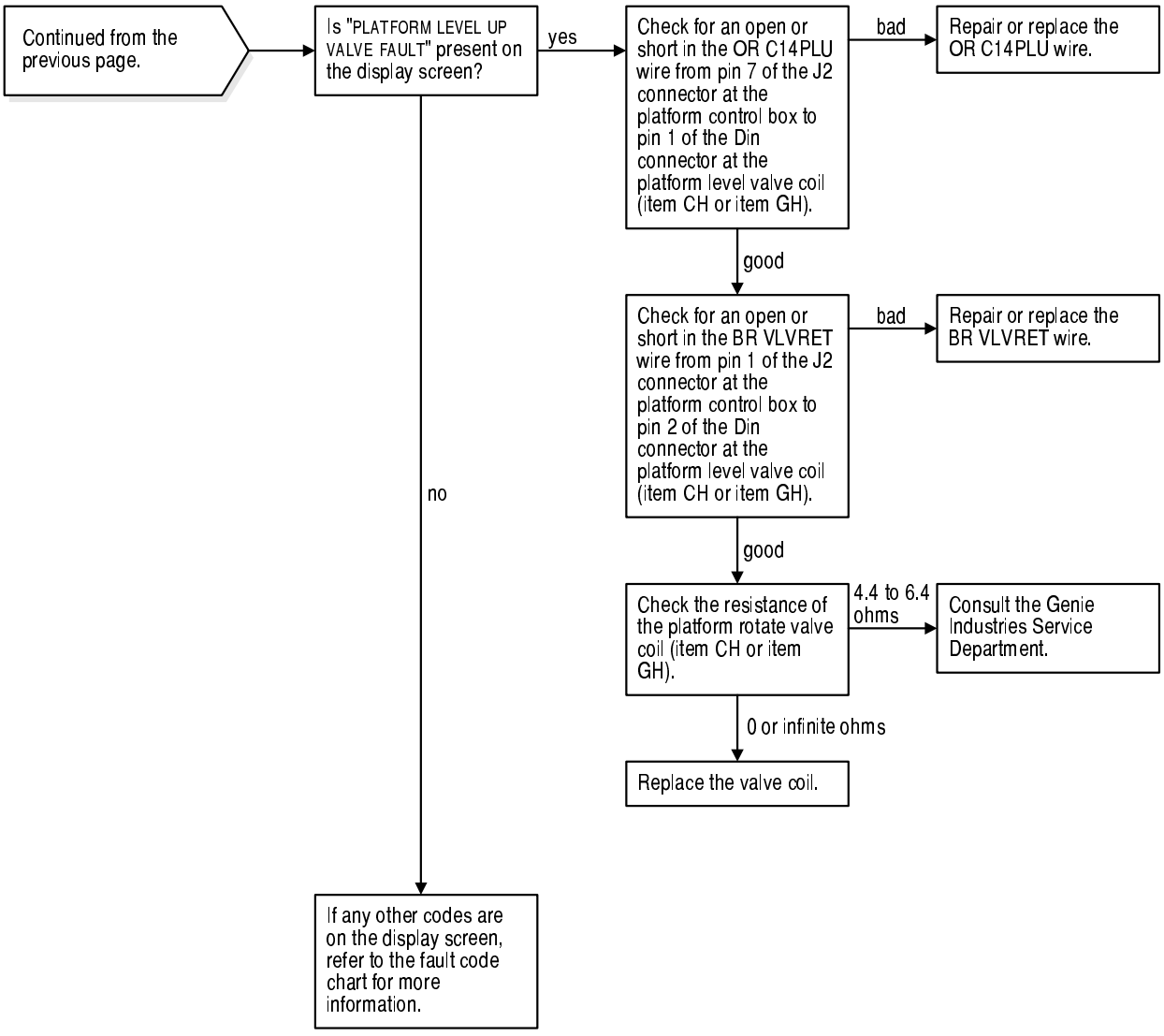

Continued from the previous page.
Is "PLATFORM LEVEL UP VALVE FAULT" present on the display screen?
yes
no
Check for an open or short in the OR C14PLU wire from pin 7 of the J2 connector at the platform control box to pin 1 of the Din connector at the platform level valve coil (item CH or item GH).
bad
Repair or replace the OR C14PLU wire.
good
Check for an open or short in the BR VLVRET wire from pin 1 of the J2 connector at the platform control box to pin 2 of the Din connector at the platform level valve coil (item CH or item GH).
bad
Repair or replace the BR VLVRET wire.
good
Check the resistance of the platform rotate valve coil (item CH or item GH).
4.4 to 6.4 ohms
Consult the Genie Industries Service Department.
0 or infinite ohms
Replace the valve coil.
If any other codes are on the display screen, refer to the fault code chart for more information.

Chart 26

Platform Level Down Function Inoperative

Be sure all other functions operate normally.

Be sure the platform out of level LED and ICON are not flashing at the ground control box.

Be sure the batteries are fully charged and properly connected.

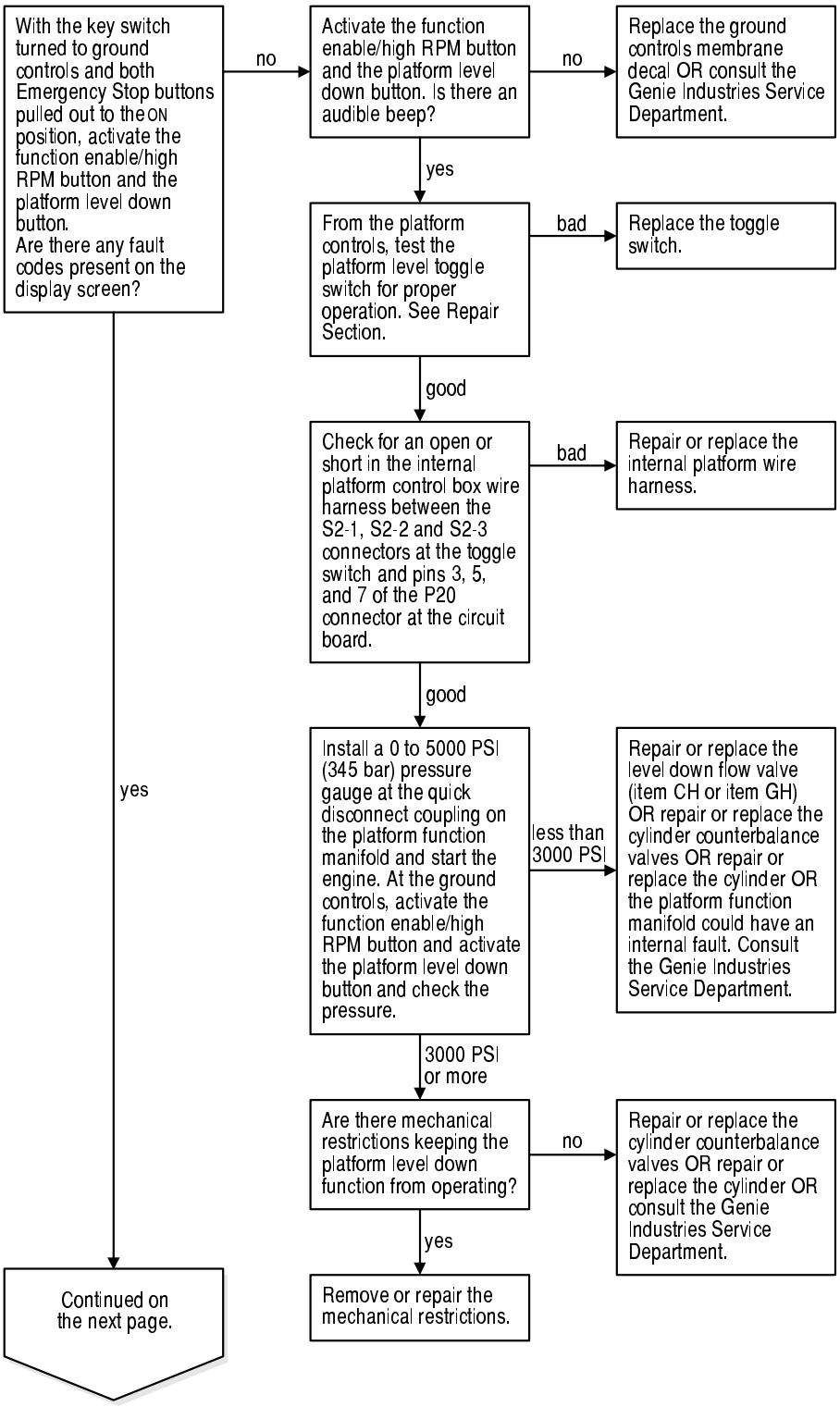

With the key switch turned to ground controls and both Emergency Stop buttons pulled out to the ON position, activate the function enable/high RPM button and the platform level down button.
Are there any fault codes present on the display screen?
no
Activate the function enable/high RPM button and the platform level down button. Is there an audible beep?
no
Replace the ground controls membrane decal OR consult the Genie Industries Service Department.
yes
From the platform controls, test the platform level toggle switch for proper operation. See Repair Section.
bad
Replace the toggle switch.
good
Check for an open or short in the internal platform control box wire harness between the S2-1, S2-2 and S2-3 connectors at the toggle switch and pins 3, 5, and 7 of the P20 connector at the circuit board.
bad
Repair or replace the internal platform wire harness.
good
Install a 0 to 5000 PSI (345 bar) pressure gauge at the quick disconnect coupling on the platform function manifold and start the engine. At the ground controls, activate the function enable/high RPM button and activate the platform level down button and check the pressure.
less than 3000 PSI
Repair or replace the level down flow valve (item CH or item GH) OR repair or replace the cylinder counterbalance valves OR repair or replace the cylinder OR the platform function manifold could have an internal fault. Consult the Genie Industries Service Department.
3000 PSI or more
Are there mechanical restrictions keeping the platform level down function from operating?
no
Repair or replace the cylinder counterbalance valves OR repair or replace the cylinder OR consult the Genie Industries Service Department.
yes
Remove or repair the mechanical restrictions.
yes
Continued on the next page.

CHART 26

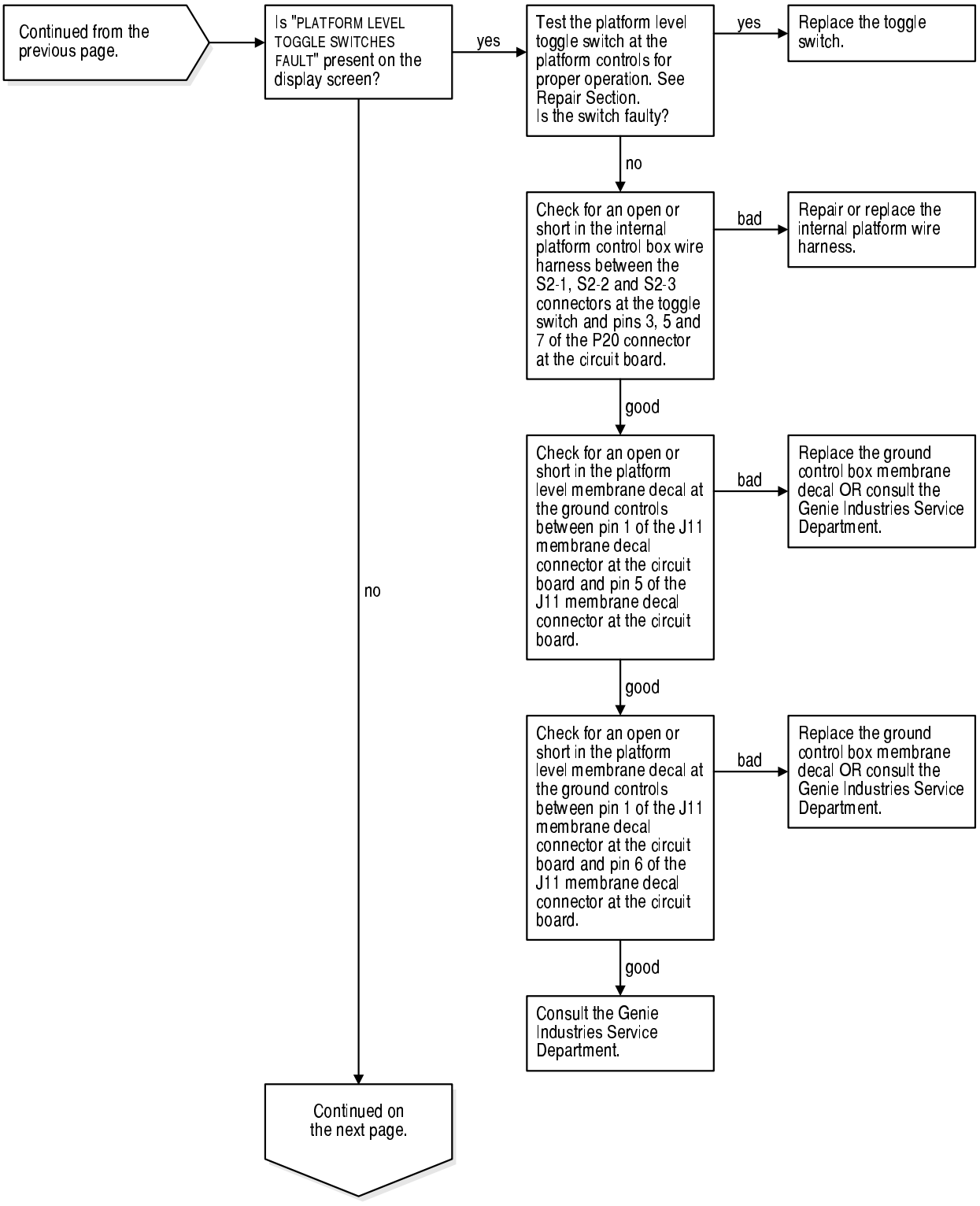

Continued from the previous page.
Is "PLATFORM LEVEL TOGGLE SWITCHES FAULT" present on the display screen?
yes
no
Test the platform level toggle switch at the platform controls for proper operation. See Repair Section.
Is the switch faulty?
yes
Replace the toggle switch.
no
Check for an open or short in the internal platform control box wire harness between the S2-1, S2-2 and S2-3 connectors at the toggle switch and pins 3, 5 and 7 of the P20 connector at the circuit board.
bad
Repair or replace the internal platform wire harness.
good
Check for an open or short in the platform level membrane decal at the ground controls between pin 1 of the J11 membrane decal connector at the circuit board and pin 5 of the J11 membrane decal connector at the circuit board.
bad
Replace the ground control box membrane decal OR consult the Genie Industries Service Department.
good
Check for an open or short in the platform level membrane decal at the ground controls between pin 1 of the J11 membrane decal connector at the circuit board and pin 6 of the J11 membrane decal connector at the circuit board.
bad
Replace the ground control box membrane decal OR consult the Genie Industries Service Department.
good
Consult the Genie Industries Service Department.
Continued on the next page.

CHART 26

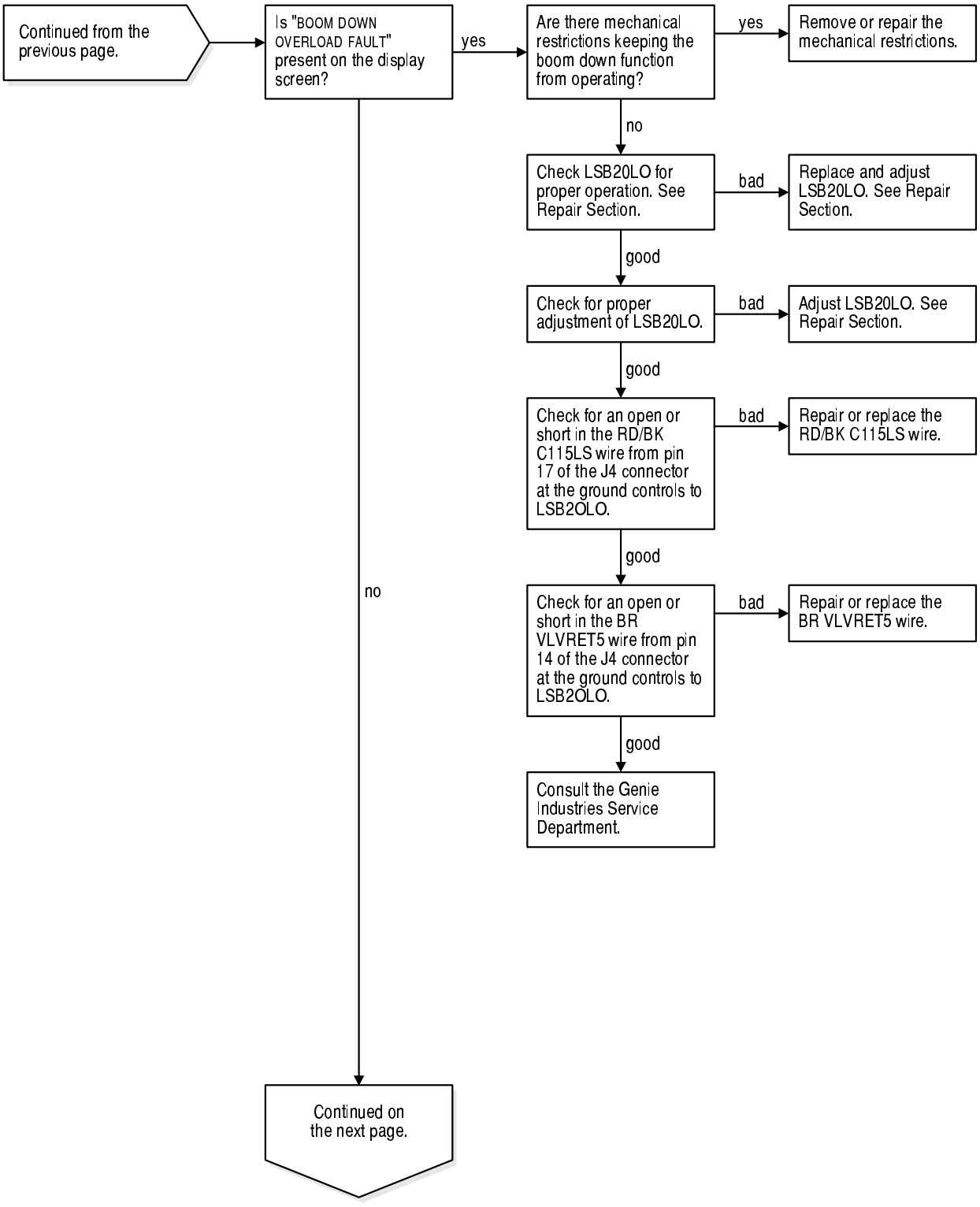

Continued from the previous page.
Is "BOOM DOWN OVERLOAD FAULT" present on the display screen?
yes
Are there mechanical restrictions keeping the boom down function from operating?
yes
Remove or repair the mechanical restrictions.
no
Check LSB20LO for proper operation. See Repair Section.
bad
Replace and adjust LSB20LO. See Repair Section.
good
Check for proper adjustment of LSB20LO.
bad
Adjust LSB20LO. See Repair Section.
good
Check for an open or short in the RD/BK C115LS wire from pin 17 of the J4 connector at the ground controls to LSB2OLO.
bad
Repair or replace the RD/BK C115LS wire.
good
Check for an open or short in the BR VLVRET5 wire from pin 14 of the J4 connector at the ground controls to LSB2OLO.
bad
Repair or replace the BR VLVRET5 wire.
good
Consult the Genie Industries Service Department.
no
Continued on the next page.

CHART 26

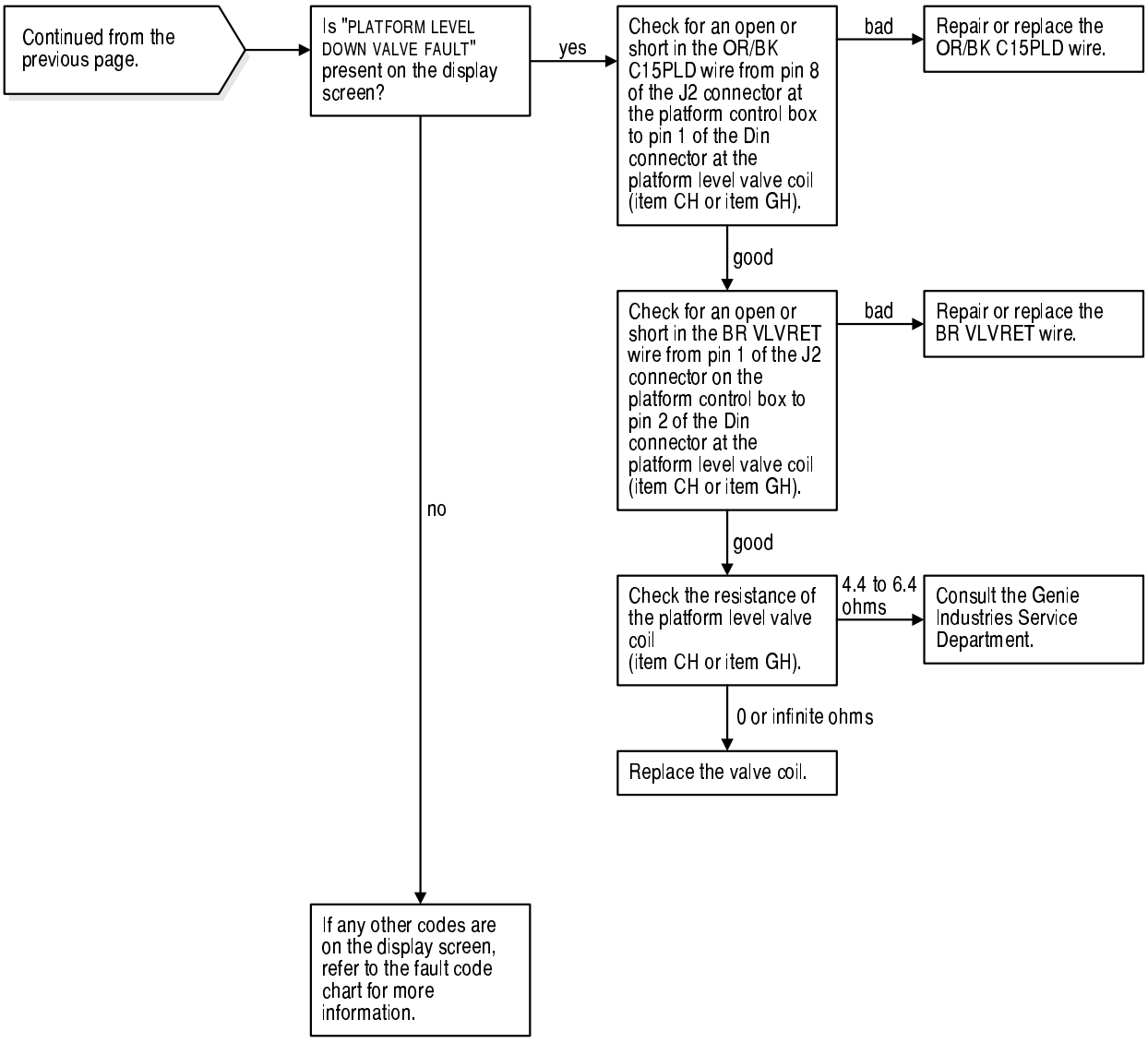

Continued from the previous page.
Is "PLATFORM LEVEL DOWN VALVE FAULT" present on the display screen?
yes
no
Check for an open or short in the OR/BK C15PLD wire from pin 8 of the J2 connector at the platform control box to pin 1 of the Din connector at the platform level valve coil (item CH or item GH).
bad
Repair or replace the OR/BK C15PLD wire.
good
Check for an open or short in the BR VLVRET wire from pin 1 of the J2 connector on the platform control box to pin 2 of the Din connector at the platform level valve coil (item CH or item GH).
bad
Repair or replace the BR VLVRET wire.
good
Check the resistance of the platform level valve coil (item CH or item GH).
4.4 to 6.4 ohms
Consult the Genie Industries Service Department.
0 or infinite ohms
Replace the valve coil.
If any other codes are on the display screen, refer to the fault code chart for more information.

Chart 27

Platform Level Safety Fault

"SAFETY SWITCH P22 FAULT"
"SAFETY SWITCH P22R FAULT"

Be sure all other functions operate normally.

Be sure the batteries are fully charged and properly connected.

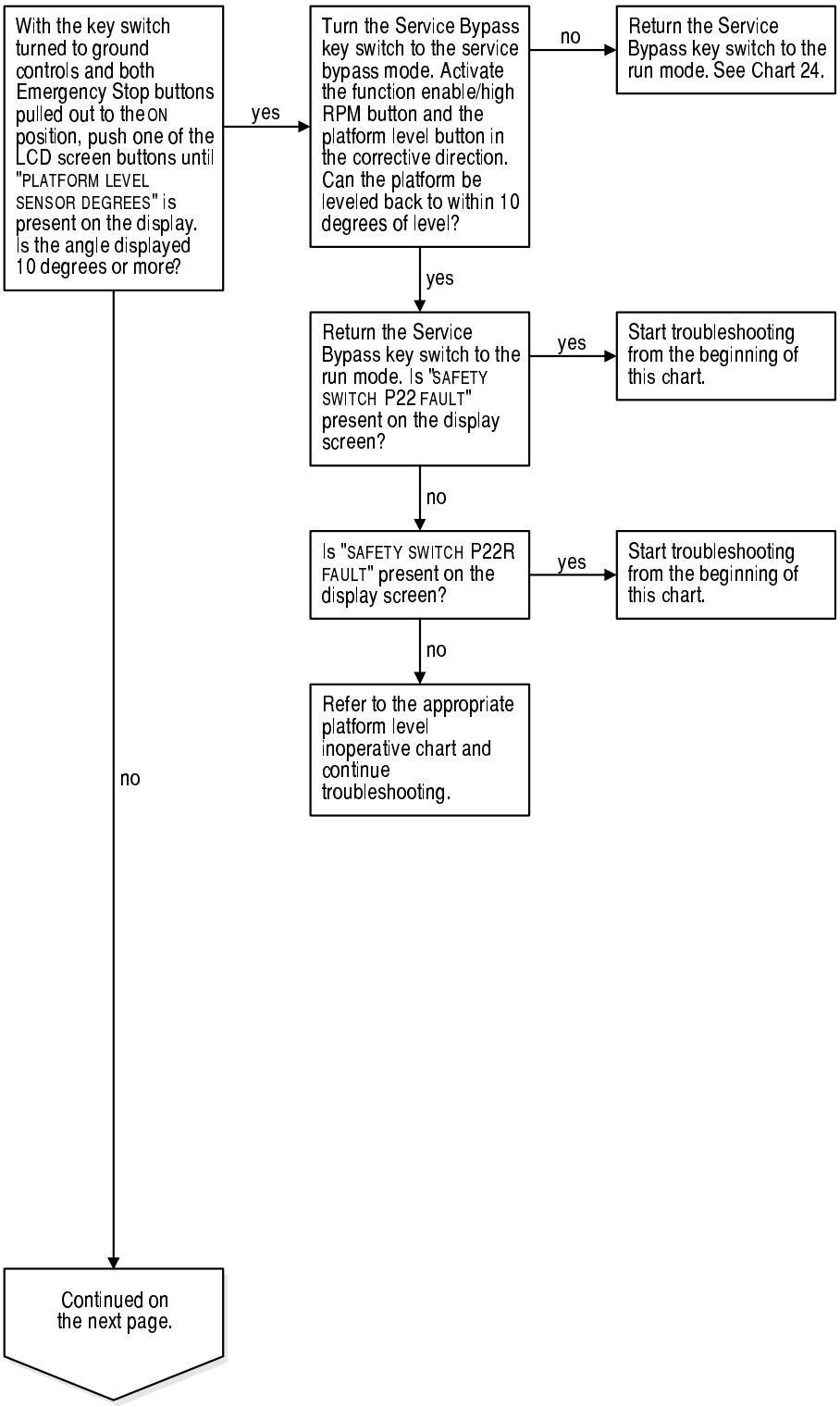

With the key switch turned to ground controls and both Emergency Stop buttons pulled out to the ON position, push one of the LCD screen buttons until "PLATFORM LEVEL SENSOR DEGREES" is present on the display. Is the angle displayed 10 degrees or more?
yes
Turn the Service Bypass key switch to the service bypass mode. Activate the function enable/high RPM button and the platform level button in the corrective direction. Can the platform be leveled back to within 10 degrees of level?
no
Return the Service Bypass key switch to the run mode. See Chart 24.
yes
Return the Service Bypass key switch to the run mode. Is "SAFETY SWITCH P22 FAULT" present on the display screen?
yes
Start troubleshooting from the beginning of this chart.
no
Is "SAFETY SWITCH P22R FAULT" present on the display screen?
yes
Start troubleshooting from the beginning of this chart.
no
Refer to the appropriate platform level inoperative chart and continue troubleshooting.
no
Continued on the next page.

CHART 27

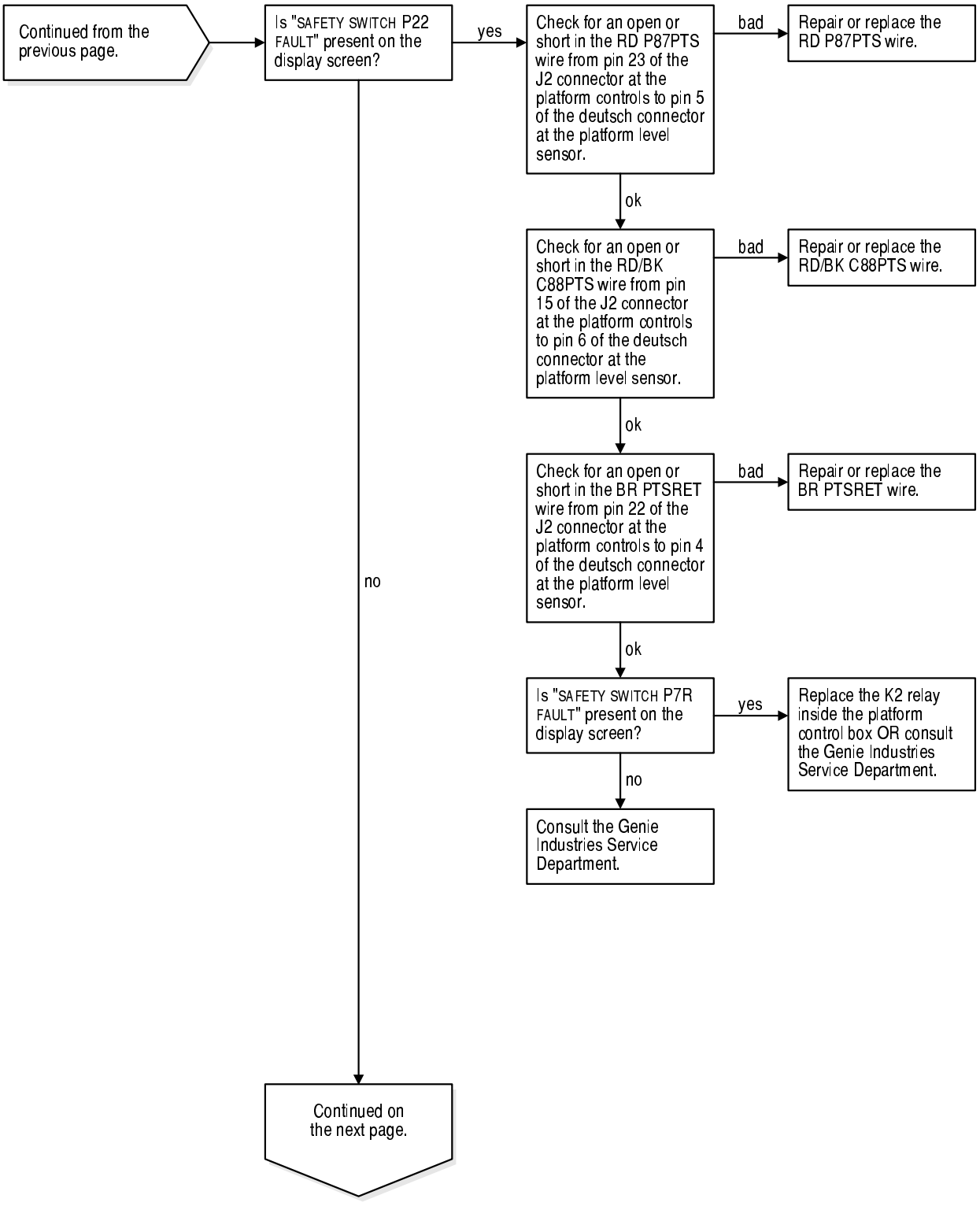

Continued from the previous page.
Is "SAFETY SWITCH P22 FAULT" present on the display screen?
yes
no
Check for an open or short in the RD P87PTS wire from pin 23 of the J2 connector at the platform controls to pin 5 of the deutsch connector at the platform level sensor.
bad
Repair or replace the RD P87PTS wire.
ok
Check for an open or short in the RD/BK C88PTS wire from pin 15 of the J2 connector at the platform controls to pin 6 of the deutsch connector at the platform level sensor.
bad
Repair or replace the RD/BK C88PTS wire.
ok
Check for an open or short in the BR PTSRET wire from pin 22 of the J2 connector at the platform controls to pin 4 of the deutsch connector at the platform level sensor.
bad
Repair or replace the BR PTSRET wire.
ok
Is "SAFETY SWITCH P7R FAULT" present on the display screen?
yes
Replace the K2 relay inside the platform control box OR consult the Genie Industries Service Department.
no
Consult the Genie Industries Service Department.
Continued on the next page.

CHART 27

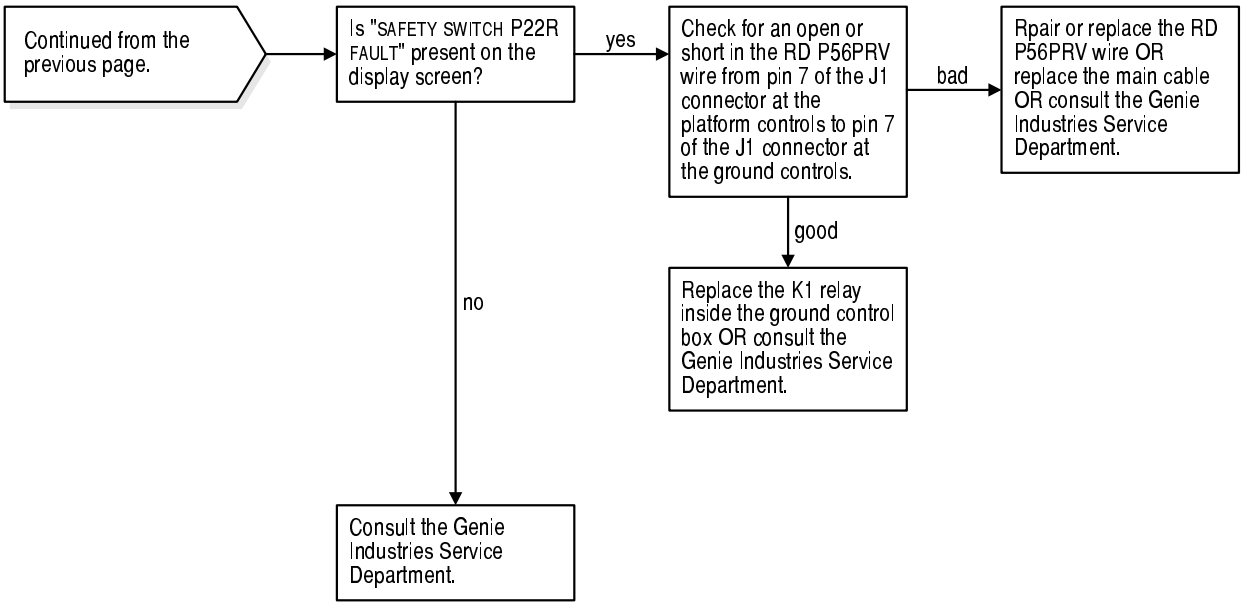

Continued from the previous page.
Is "SAFETY SWITCH P22R FAULT" present on the display screen?
yes
Check for an open or short in the RD P56PRV wire from pin 7 of the J1 connector at the platform controls to pin 7 of the J1 connector at the ground controls.
bad
Rpair or replace the RD P56PRV wire OR replace the main cable OR consult the Genie Industries Service Department.
good
Replace the K1 relay inside the ground control box OR consult the Genie Industries Service Department.
no
Consult the Genie Industries Service Department.

Chart 28

Platform Rotate Clockwise Function Inoperative

Be sure all other functions operate normally.

Be sure the axles are fully extended.

Be sure the batteries are fully charged and properly connected.

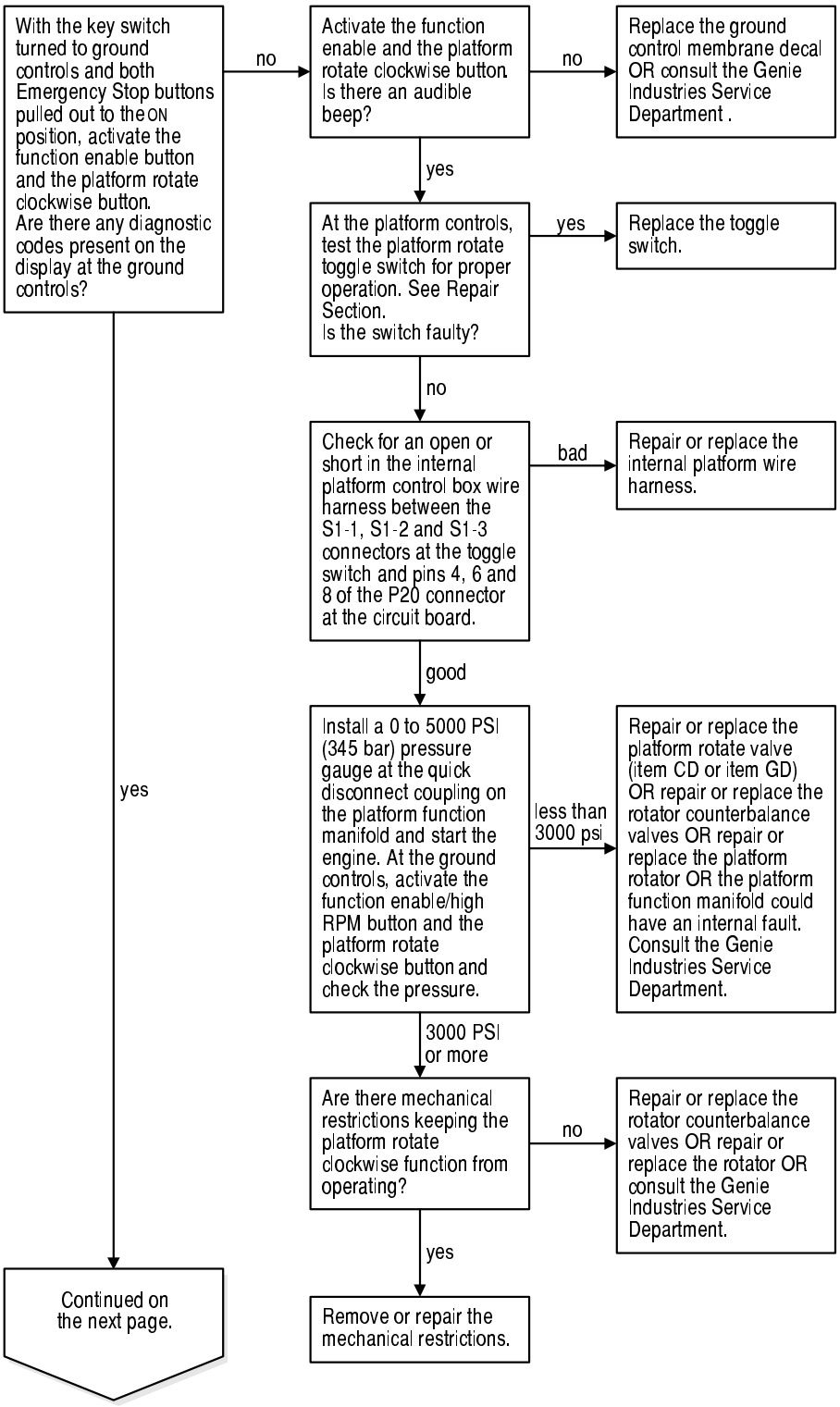

With the key switch turned to ground controls and both Emergency Stop buttons pulled out to the ON position, activate the function enable button and the platform rotate clockwise button. Are there any diagnostic codes present on the display at the ground controls?
no
Activate the function enable and the platform rotate clockwise button. Is there an audible beep?
no
Replace the ground control membrane decal OR consult the Genie Industries Service Department .
yes
At the platform controls, test the platform rotate toggle switch for proper operation. See Repair Section. Is the switch faulty?
yes
Replace the toggle switch.
no
Check for an open or short in the internal platform control box wire harness between the S1-1, S1-2 and S1-3 connectors at the toggle switch and pins 4, 6 and 8 of the P20 connector at the circuit board.
bad
Repair or replace the internal platform wire harness.
good
Install a 0 to 5000 PSI (345 bar) pressure gauge at the quick disconnect coupling on the platform function manifold and start the engine. At the ground controls, activate the function enable/high RPM button and the platform rotate clockwise button and check the pressure.
less than 3000 psi
Repair or replace the platform rotate valve (item CD or item GD) OR repair or replace the rotator counterbalance valves OR repair or replace the platform rotator OR the platform function manifold could have an internal fault. Consult the Genie Industries Service Department.
3000 PSI or more
Are there mechanical restrictions keeping the platform rotate clockwise function from operating?
no
Repair or replace the rotator counterbalance valves OR repair or replace the rotator OR consult the Genie Industries Service Department.
yes
Remove or repair the mechanical restrictions.
yes
Continued on the next page.

CHART 28

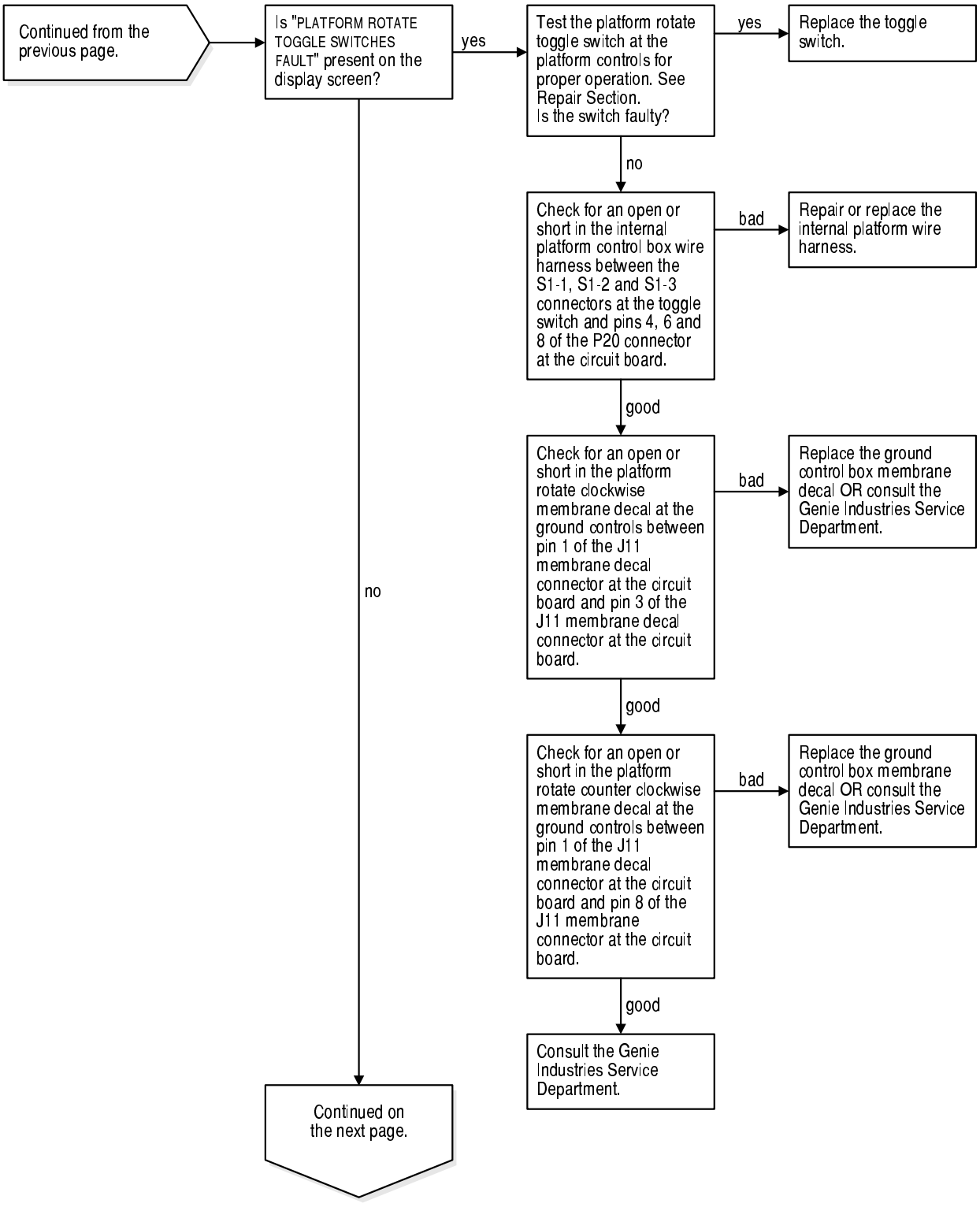

Continued from the previous page.
Is "PLATFORM ROTATE TOGGLE SWITCHES FAULT" present on the display screen?
yes
Test the platform rotate toggle switch at the platform controls for proper operation. See Repair Section. Is the switch faulty?
yes
Replace the toggle switch.
no
Check for an open or short in the internal platform control box wire harness between the S1-1, S1-2 and S1-3 connectors at the toggle switch and pins 4, 6 and 8 of the P20 connector at the circuit board.
bad
Repair or replace the internal platform wire harness.
good
Check for an open or short in the platform rotate clockwise membrane decal at the ground controls between pin 1 of the J11 membrane decal connector at the circuit board and pin 3 of the J11 membrane decal connector at the circuit board.
bad
Replace the ground control box membrane decal OR consult the Genie Industries Service Department.
good
Check for an open or short in the platform rotate counter clockwise membrane decal at the ground controls between pin 1 of the J11 membrane decal connector at the circuit board and pin 8 of the J11 membrane connector at the circuit board.
bad
Replace the ground control box membrane decal OR consult the Genie Industries Service Department.
good
Consult the Genie Industries Service Department.
no
Continued on the next page.

CHART 28

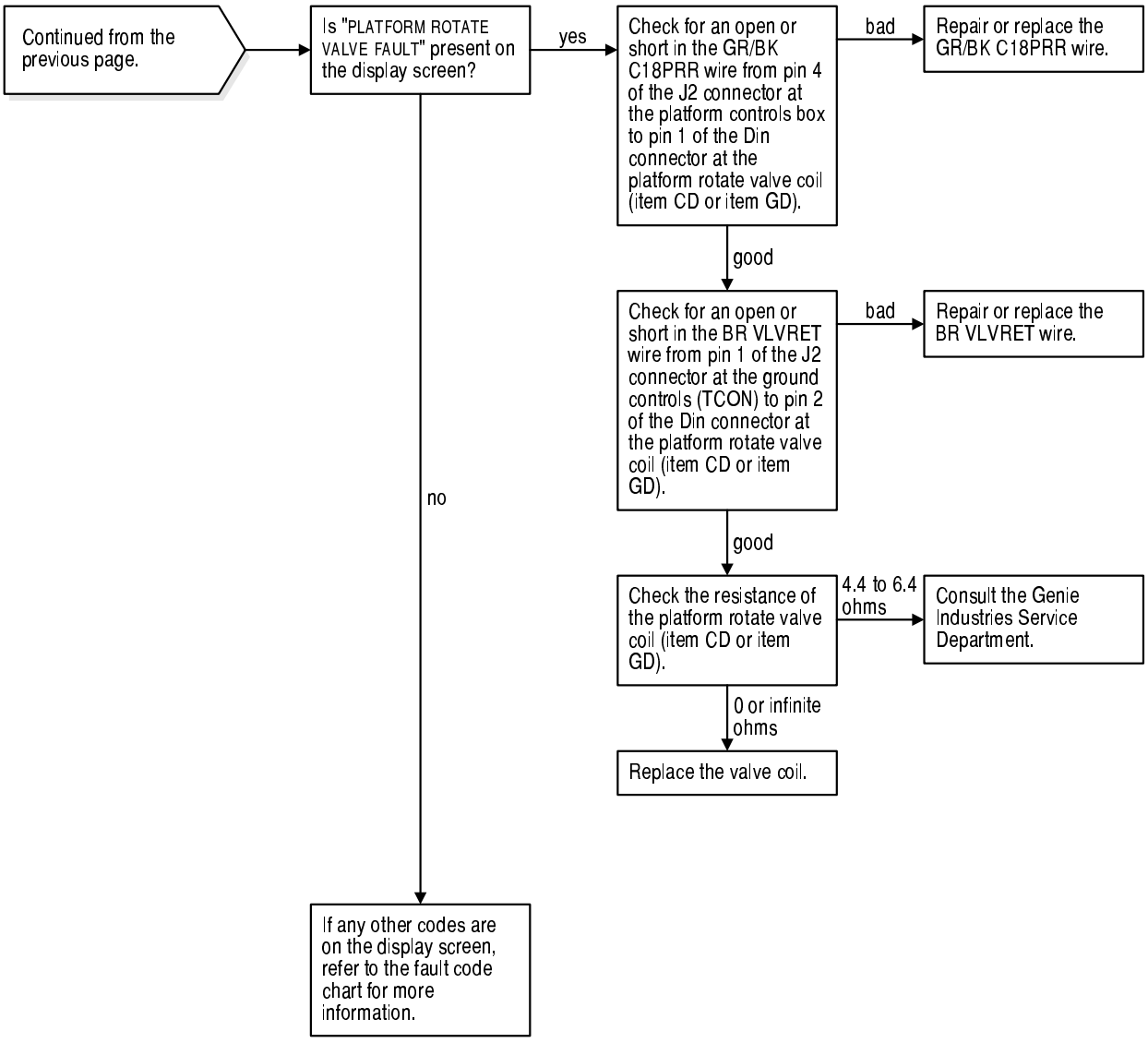

Continued from the previous page.
Is "PLATFORM ROTATE VALVE FAULT" present on the display screen?
yes
no
Check for an open or short in the GR/BK C18PRR wire from pin 4 of the J2 connector at the platform controls box to pin 1 of the Din connector at the platform rotate valve coil (item CD or item GD).
bad
Repair or replace the GR/BK C18PRR wire.
good
Check for an open or short in the BR VLVRET wire from pin 1 of the J2 connector at the ground controls (TCON) to pin 2 of the Din connector at the platform rotate valve coil (item CD or item GD).
bad
Repair or replace the BR VLVRET wire.
good
Check the resistance of the platform rotate valve coil (item CD or item GD).
4.4 to 6.4 ohms
Consult the Genie Industries Service Department.
0 or infinite ohms
Replace the valve coil.
If any other codes are on the display screen, refer to the fault code chart for more information.

Chart 29

Platform Rotate Counter Clockwise Function Inoperative

Be sure all other functions operate normally.

Be sure the axles are fully extended.

Be sure the batteries are fully charged and properly connected.

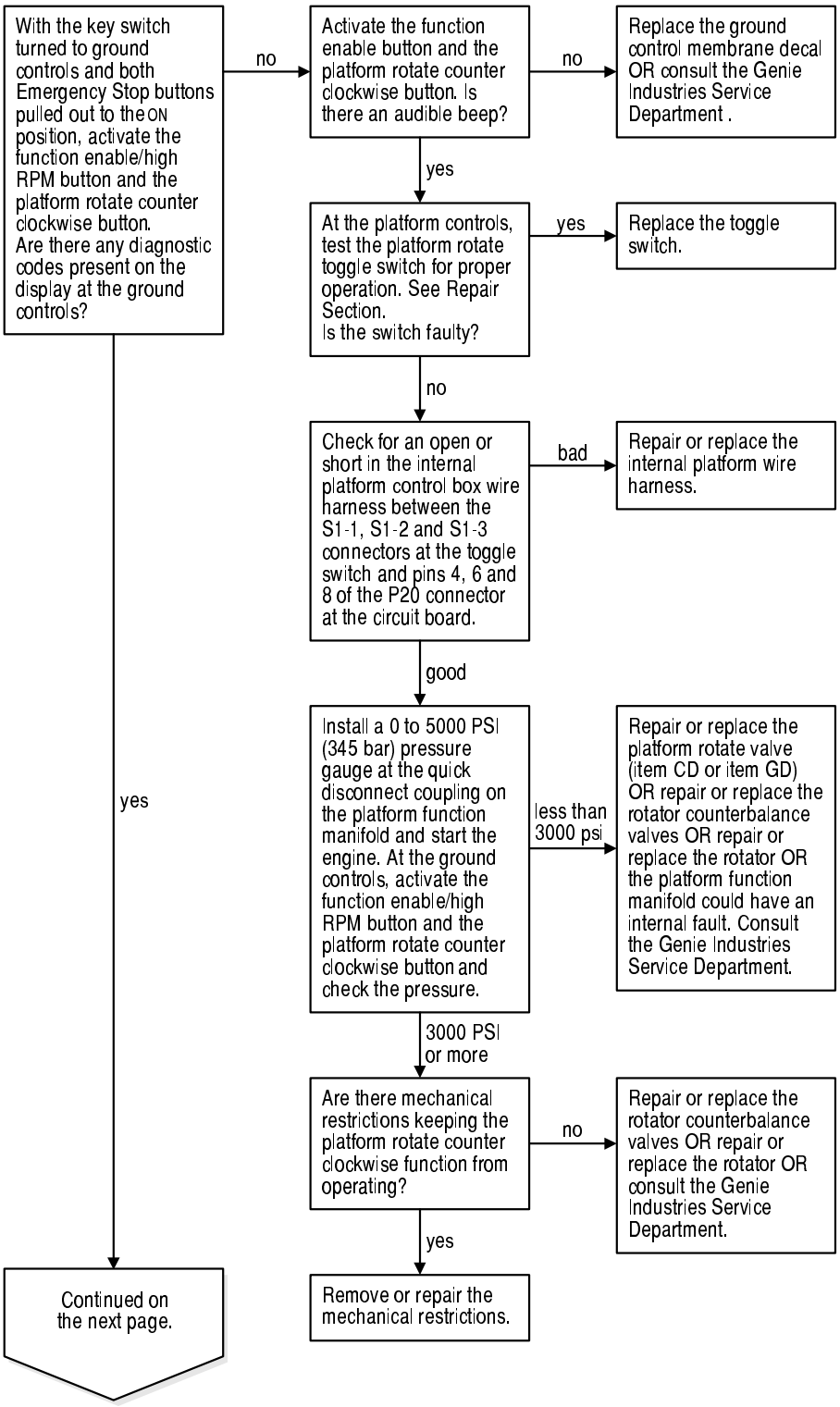

With the key switch turned to ground controls and both Emergency Stop buttons pulled out to the ON position, activate the function enable/high RPM button and the platform rotate counter clockwise button. Are there any diagnostic codes present on the display at the ground controls?
no
Activate the function enable button and the platform rotate counter clockwise button. Is there an audible beep?
no
Replace the ground control membrane decal OR consult the Genie Industries Service Department .
yes
At the platform controls, test the platform rotate toggle switch for proper operation. See Repair Section. Is the switch faulty?
yes
Replace the toggle switch.
no
Check for an open or short in the internal platform control box wire harness between the S1-1, S1-2 and S1-3 connectors at the toggle switch and pins 4, 6 and 8 of the P20 connector at the circuit board.
bad
Repair or replace the internal platform wire harness.
good
Install a 0 to 5000 PSI (345 bar) pressure gauge at the quick disconnect coupling on the platform function manifold and start the engine. At the ground controls, activate the function enable/high RPM button and the platform rotate counter clockwise button and check the pressure.
less than 3000 psi
Repair or replace the platform rotate valve (item CD or item GD) OR repair or replace the rotator counterbalance valves OR repair or replace the rotator OR the platform function manifold could have an internal fault. Consult the Genie Industries Service Department.
3000 PSI or more
Are there mechanical restrictions keeping the platform rotate counter clockwise function from operating?
no
Repair or replace the rotator counterbalance valves OR repair or replace the rotator OR consult the Genie Industries Service Department.
yes
Remove or repair the mechanical restrictions.
yes
Continued on the next page.

CHART 29

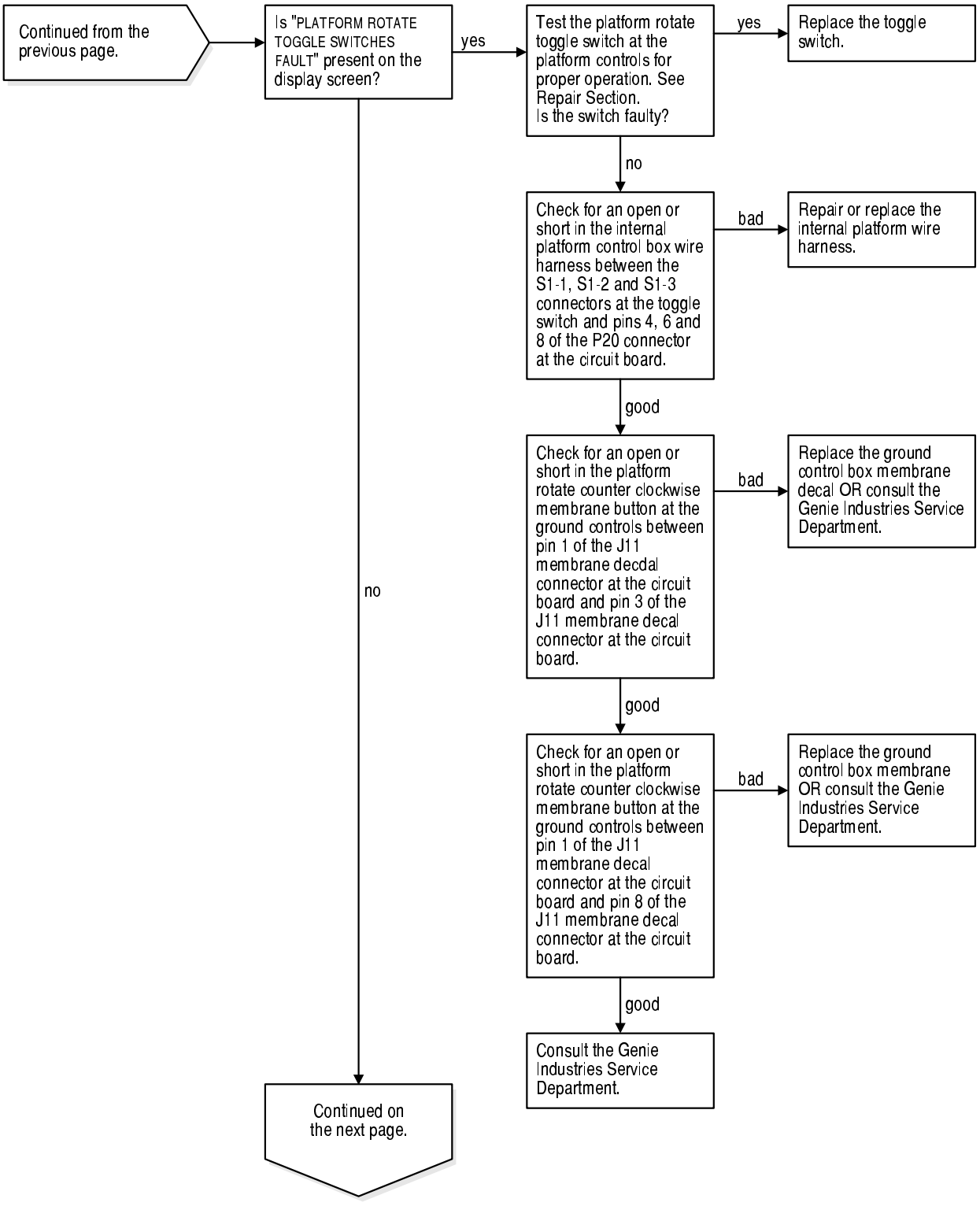

Continued from the previous page.
Is "PLATFORM ROTATE TOGGLE SWITCHES FAULT" present on the display screen?
yes
no
Test the platform rotate toggle switch at the platform controls for proper operation. See Repair Section.
Is the switch faulty?
yes
Replace the toggle switch.
no
Check for an open or short in the internal platform control box wire harness between the S1-1, S1-2 and S1-3 connectors at the toggle switch and pins 4, 6 and 8 of the P20 connector at the circuit board.
bad
Repair or replace the internal platform wire harness.
good
Check for an open or short in the platform rotate counter clockwise membrane button at the ground controls between pin 1 of the J11 membrane decdal connector at the circuit board and pin 3 of the J11 membrane decal connector at the circuit board.
bad
Replace the ground control box membrane decal OR consult the Genie Industries Service Department.
good
Check for an open or short in the platform rotate counter clockwise membrane button at the ground controls between pin 1 of the J11 membrane decal connector at the circuit board and pin 8 of the J11 membrane decal connector at the circuit board.
bad
Replace the ground control box membrane OR consult the Genie Industries Service Department.
good
Consult the Genie Industries Service Department.
Continued on the next page.

CHART 29

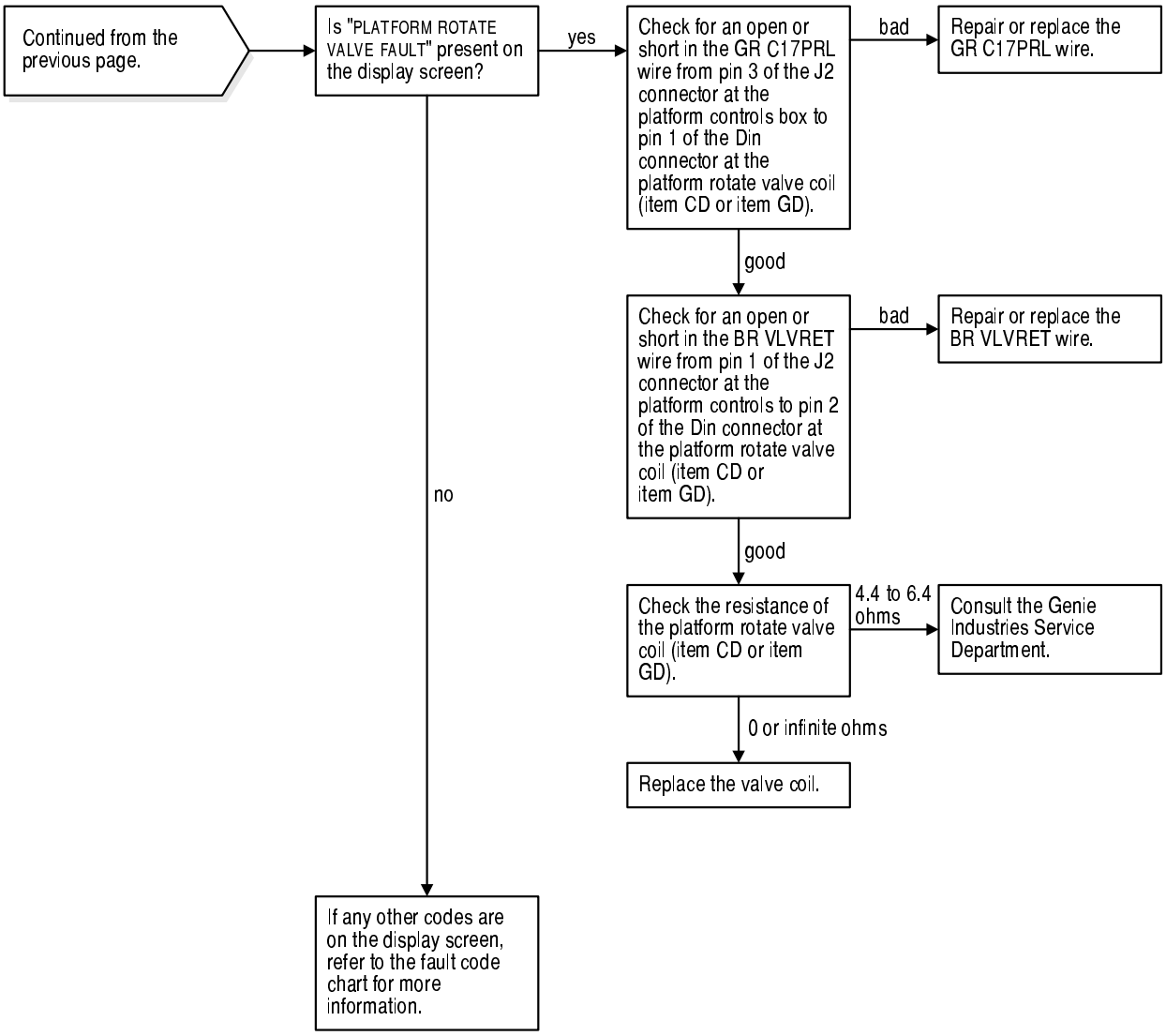

Continued from the previous page.
Is "PLATFORM ROTATE VALVE FAULT" present on the display screen?
yes
no
Check for an open or short in the GR C17PRL wire from pin 3 of the J2 connector at the platform controls box to pin 1 of the Din connector at the platform rotate valve coil (item CD or item GD).
bad
Repair or replace the GR C17PRL wire.
good
Check for an open or short in the BR VLVRET wire from pin 1 of the J2 connector at the platform controls to pin 2 of the Din connector at the platform rotate valve coil (item CD or item GD).
bad
Repair or replace the BR VLVRET wire.
good
Check the resistance of the platform rotate valve coil (item CD or item GD).
4.4 to 6.4 ohms
Consult the Genie Industries Service Department.
0 or infinite ohms
Replace the valve coil.
If any other codes are on the display screen, refer to the fault code chart for more information.

Chart 30

Jib Up Function Inoperative

Be sure all other functions operate normally.

Be sure the axles are fully extended.

Be sure the batteries are fully charged and properly connected.

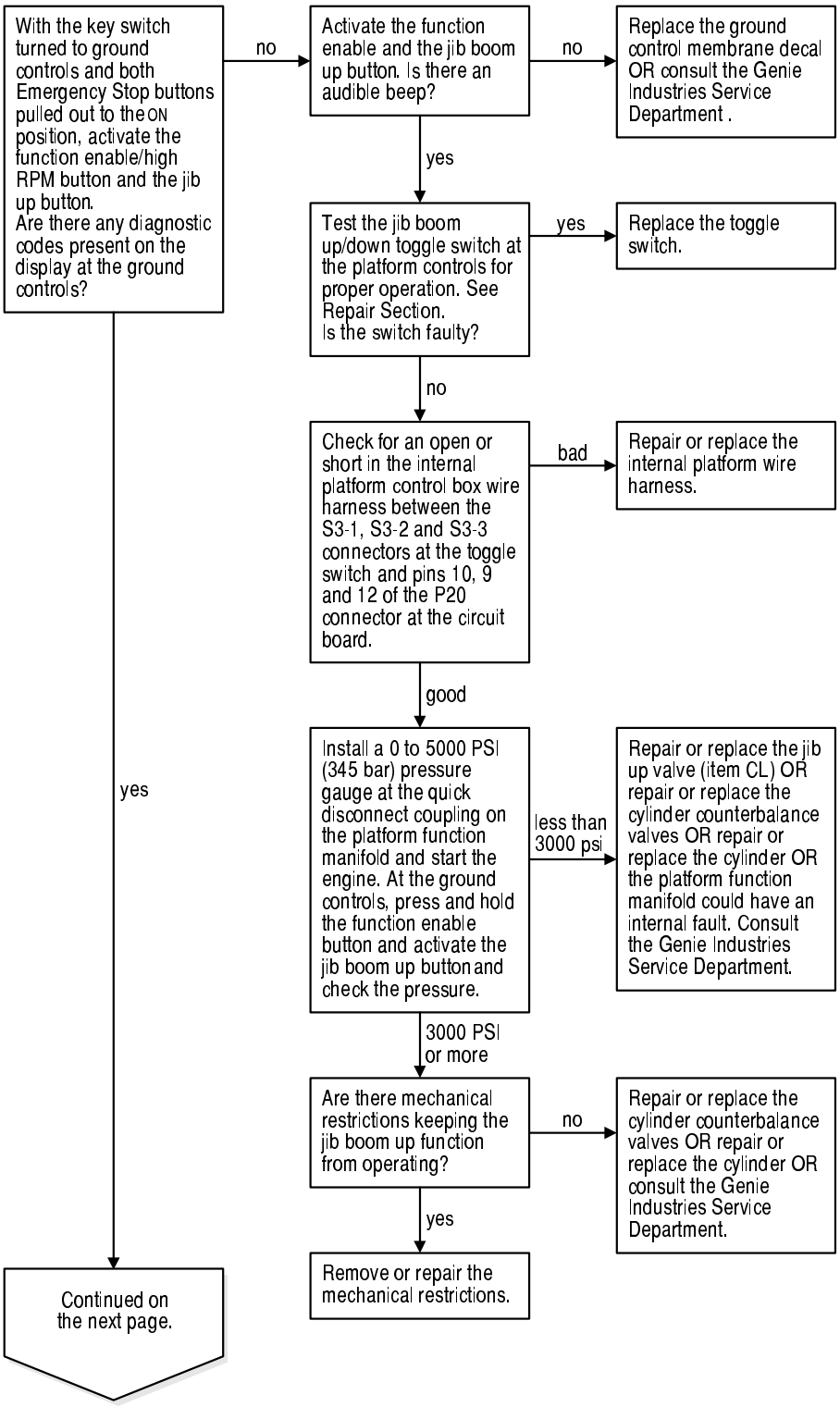

With the key switch turned to ground controls and both Emergency Stop buttons pulled out to the ON position, activate the function enable/high RPM button and the jib up button.
Are there any diagnostic codes present on the display at the ground controls?
no
Activate the function enable and the jib boom up button. Is there an audible beep?
no
Replace the ground control membrane decal OR consult the Genie Industries Service Department .
yes
Test the jib boom up/down toggle switch at the platform controls for proper operation. See Repair Section.
Is the switch faulty?
yes
Replace the toggle switch.
no
Check for an open or short in the internal platform control box wire harness between the S3-1, S3-2 and S3-3 connectors at the toggle switch and pins 10, 9 and 12 of the P20 connector at the circuit board.
bad
Repair or replace the internal platform wire harness.
good
Install a 0 to 5000 PSI (345 bar) pressure gauge at the quick disconnect coupling on the platform function manifold and start the engine. At the ground controls, press and hold the function enable button and activate the jib boom up button and check the pressure.
less than 3000 psi
Repair or replace the jib up valve (item CL) OR repair or replace the cylinder counterbalance valves OR repair or replace the cylinder OR the platform function manifold could have an internal fault. Consult the Genie Industries Service Department.
3000 PSI or more
Are there mechanical restrictions keeping the jib boom up function from operating?
no
Repair or replace the cylinder counterbalance valves OR repair or replace the cylinder OR consult the Genie Industries Service Department.
yes
Remove or repair the mechanical restrictions.
yes
Continued on the next page.

CHART 30

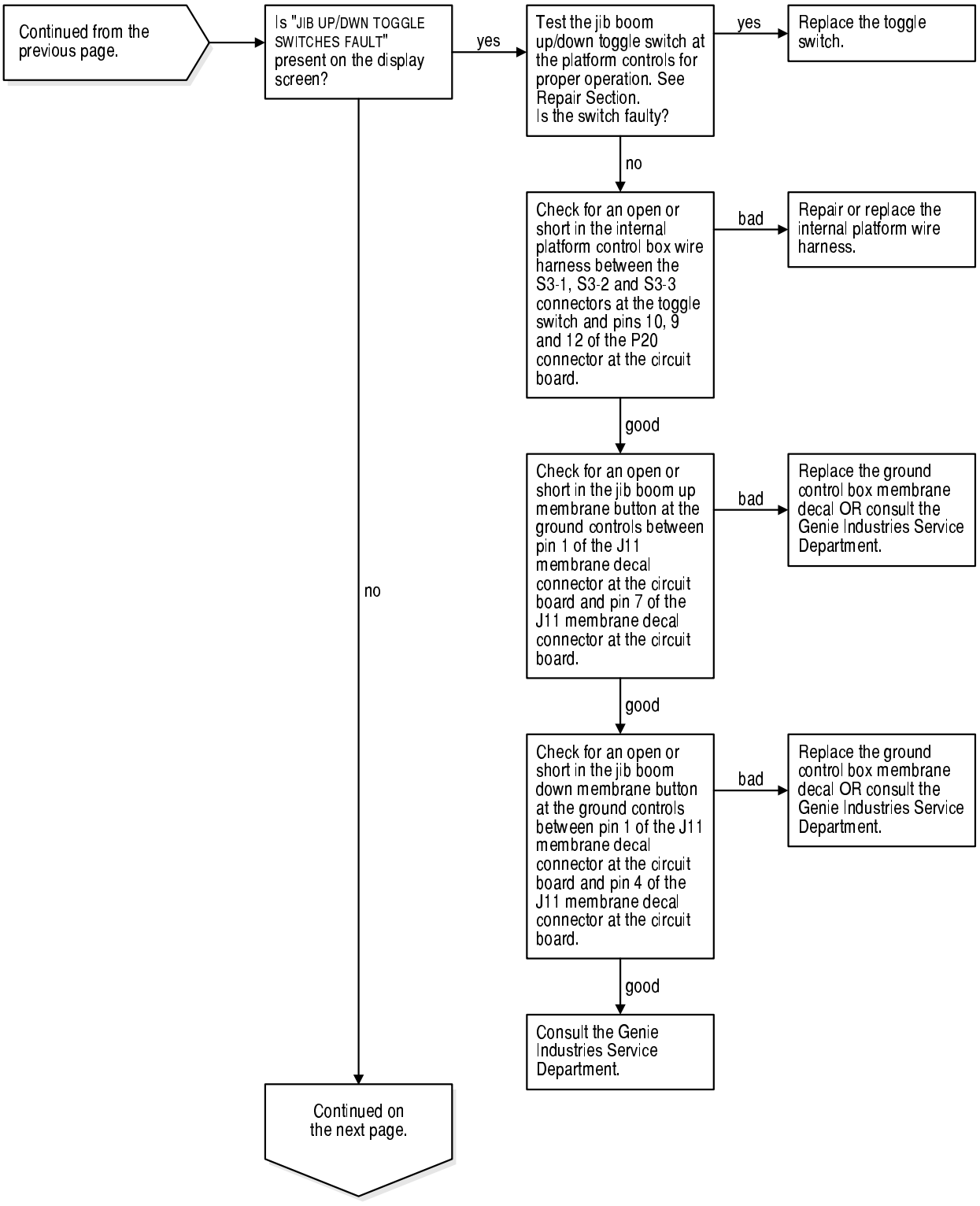

Continued from the previous page.
Is "JIB UP/DWN TOGGLE SWITCHES FAULT" present on the display screen?
yes
Test the jib boom up/down toggle switch at the platform controls for proper operation. See Repair Section. Is the switch faulty?
yes
Replace the toggle switch.
no
Check for an open or short in the internal platform control box wire harness between the S3-1, S3-2 and S3-3 connectors at the toggle switch and pins 10, 9 and 12 of the P20 connector at the circuit board.
bad
Repair or replace the internal platform wire harness.
good
Check for an open or short in the jib boom up membrane button at the ground controls between pin 1 of the J11 membrane decal connector at the circuit board and pin 7 of the J11 membrane decal connector at the circuit board.
bad
Replace the ground control box membrane decal OR consult the Genie Industries Service Department.
good
Check for an open or short in the jib boom down membrane button at the ground controls between pin 1 of the J11 membrane decal connector at the circuit board and pin 4 of the J11 membrane decal connector at the circuit board.
bad
Replace the ground control box membrane decal OR consult the Genie Industries Service Department.
good
Consult the Genie Industries Service Department.
no
Continued on the next page.

CHART 30

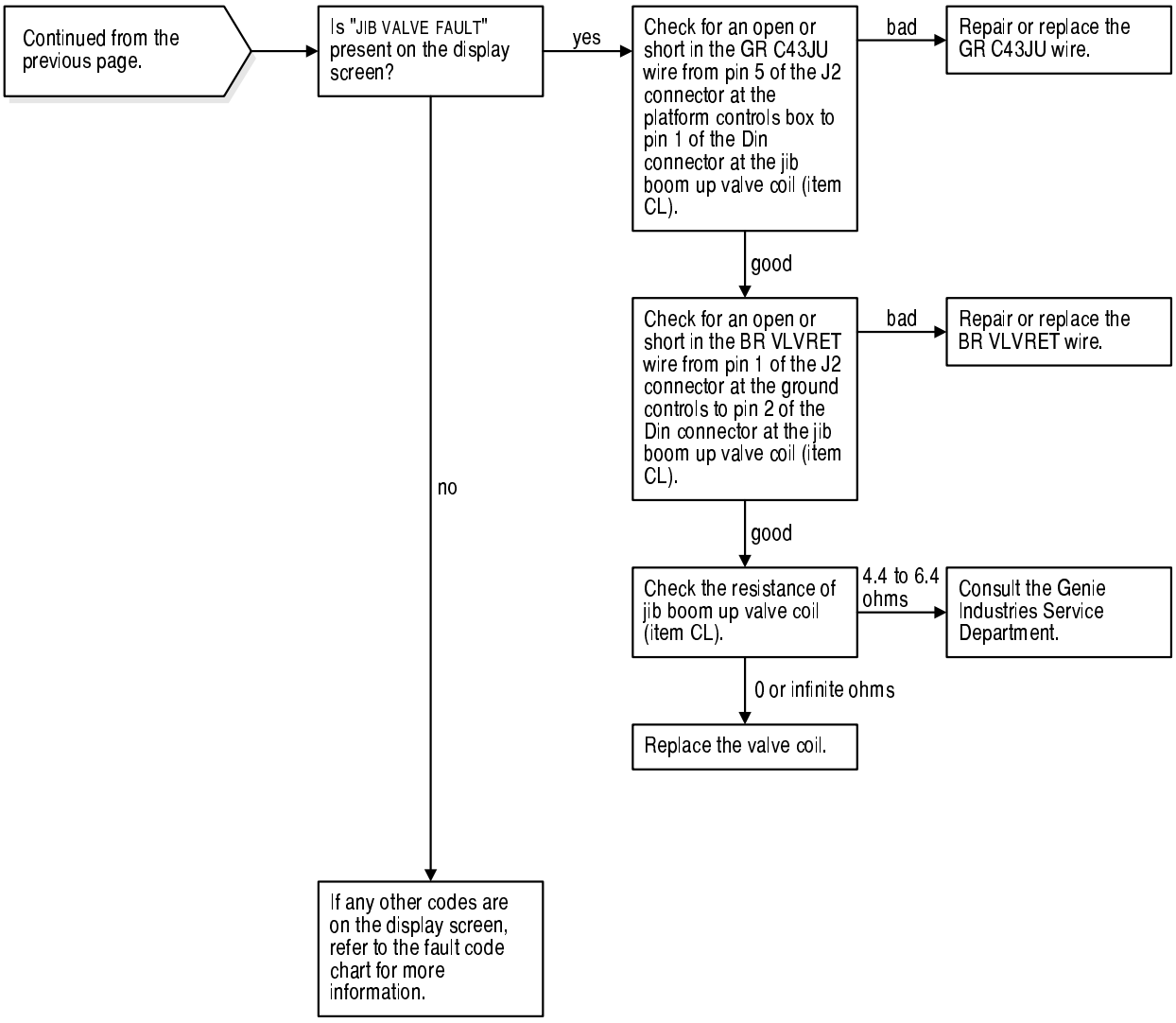

Continued from the previous page.
Is "JIB VALVE FAULT" present on the display screen?
yes
no
Check for an open or short in the GR C43JU wire from pin 5 of the J2 connector at the platform controls box to pin 1 of the Din connector at the jib boom up valve coil (item CL).
bad
Repair or replace the GR C43JU wire.
good
Check for an open or short in the BR VLVRET wire from pin 1 of the J2 connector at the ground controls to pin 2 of the Din connector at the jib boom up valve coil (item CL).
bad
Repair or replace the BR VLVRET wire.
good
Check the resistance of jib boom up valve coil (item CL).
4.4 to 6.4 ohms
Consult the Genie Industries Service Department.
0 or infinite ohms
Replace the valve coil.
If any other codes are on the display screen, refer to the fault code chart for more information.

Chart 31

Jib Down Function Inoperative

Be sure all other functions operate normally.

Be sure the axles are fully extended.

Be sure the batteries are fully charged and properly connected.

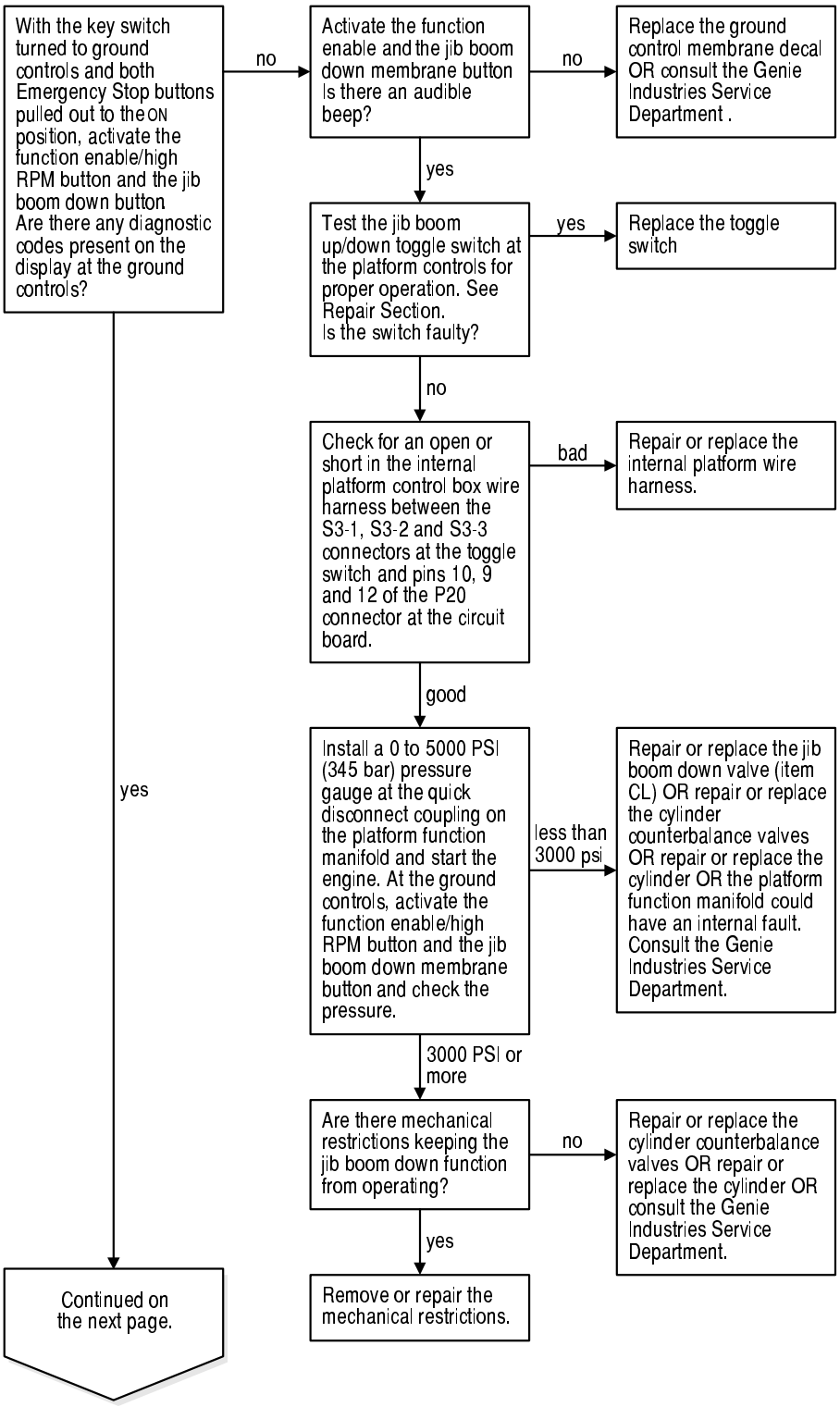

With the key switch turned to ground controls and both Emergency Stop buttons pulled out to the ON position, activate the function enable/high RPM button and the jib boom down button. Are there any diagnostic codes present on the display at the ground controls?
no
Activate the function enable and the jib boom down membrane button. Is there an audible beep?
no
Replace the ground control membrane decal OR consult the Genie Industries Service Department .
yes
Test the jib boom up/down toggle switch at the platform controls for proper operation. See Repair Section. Is the switch faulty?
yes
Replace the toggle switch
no
Check for an open or short in the internal platform control box wire harness between the S3-1, S3-2 and S3-3 connectors at the toggle switch and pins 10, 9 and 12 of the P20 connector at the circuit board.
bad
Repair or replace the internal platform wire harness.
good
Install a 0 to 5000 PSI (345 bar) pressure gauge at the quick disconnect coupling on the platform function manifold and start the engine. At the ground controls, activate the function enable/high RPM button and the jib boom down membrane button and check the pressure.
less than 3000 psi
Repair or replace the jib boom down valve (item CL) OR repair or replace the cylinder counterbalance valves OR repair or replace the cylinder OR the platform function manifold could have an internal fault. Consult the Genie Industries Service Department.
3000 PSI or more
Are there mechanical restrictions keeping the jib boom down function from operating?
no
Repair or replace the cylinder counterbalance valves OR repair or replace the cylinder OR consult the Genie Industries Service Department.
yes
Remove or repair the mechanical restrictions.
yes
Continued on the next page.

CHART 31

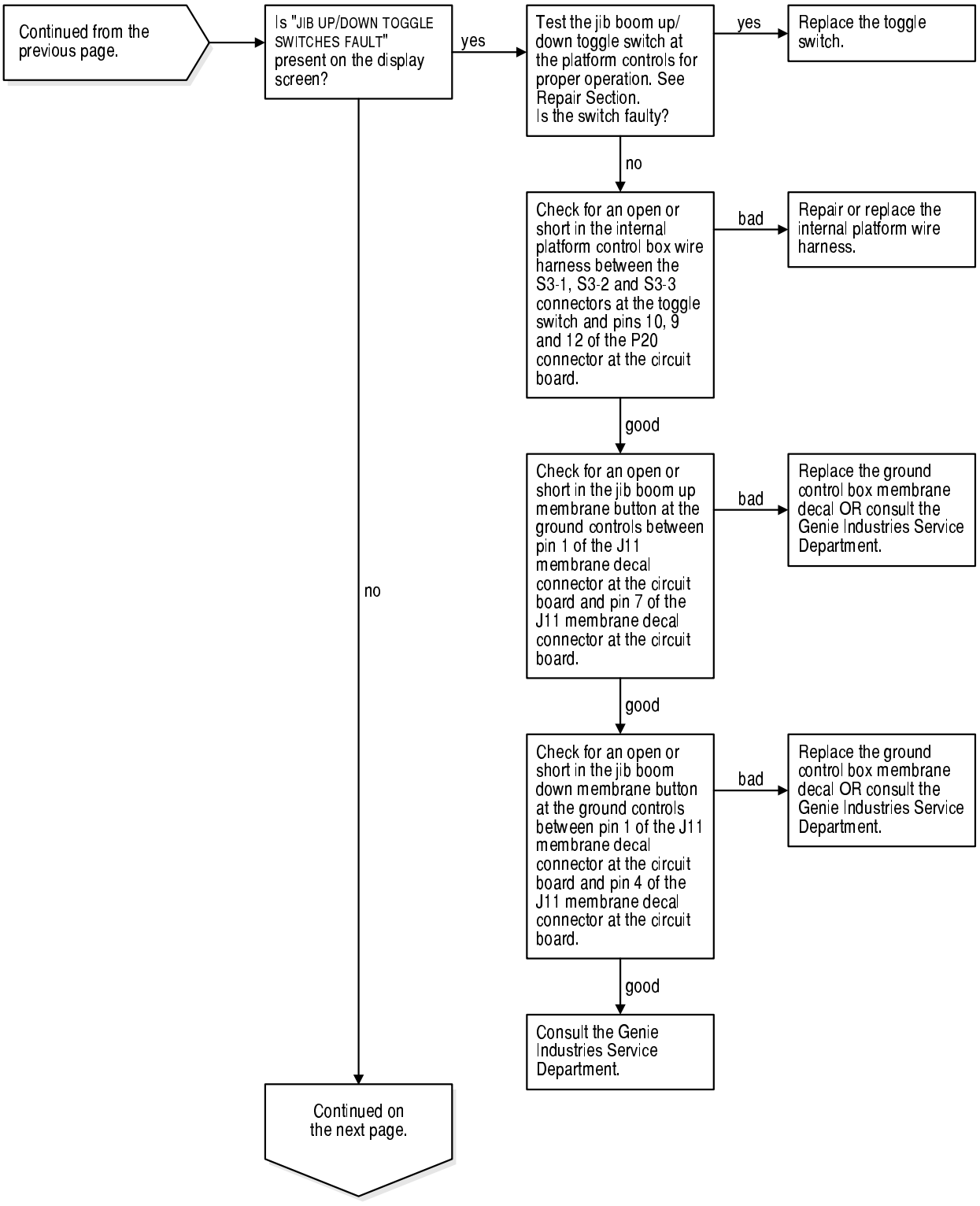

Continued from the previous page.
Is "JIB UP/DOWN TOGGLE SWITCHES FAULT" present on the display screen?
yes
Test the jib boom up/ down toggle switch at the platform controls for proper operation. See Repair Section. Is the switch faulty?
yes
Replace the toggle switch.
no
Check for an open or short in the internal platform control box wire harness between the S3-1, S3-2 and S3-3 connectors at the toggle switch and pins 10, 9 and 12 of the P20 connector at the circuit board.
bad
Repair or replace the internal platform wire harness.
good
Check for an open or short in the jib boom up membrane button at the ground controls between pin 1 of the J11 membrane decal connector at the circuit board and pin 7 of the J11 membrane decal connector at the circuit board.
bad
Replace the ground control box membrane decal OR consult the Genie Industries Service Department.
good
Check for an open or short in the jib boom down membrane button at the ground controls between pin 1 of the J11 membrane decal connector at the circuit board and pin 4 of the J11 membrane decal connector at the circuit board.
bad
Replace the ground control box membrane decal OR consult the Genie Industries Service Department.
good
Consult the Genie Industries Service Department.
no
Continued on the next page.

CHART 31

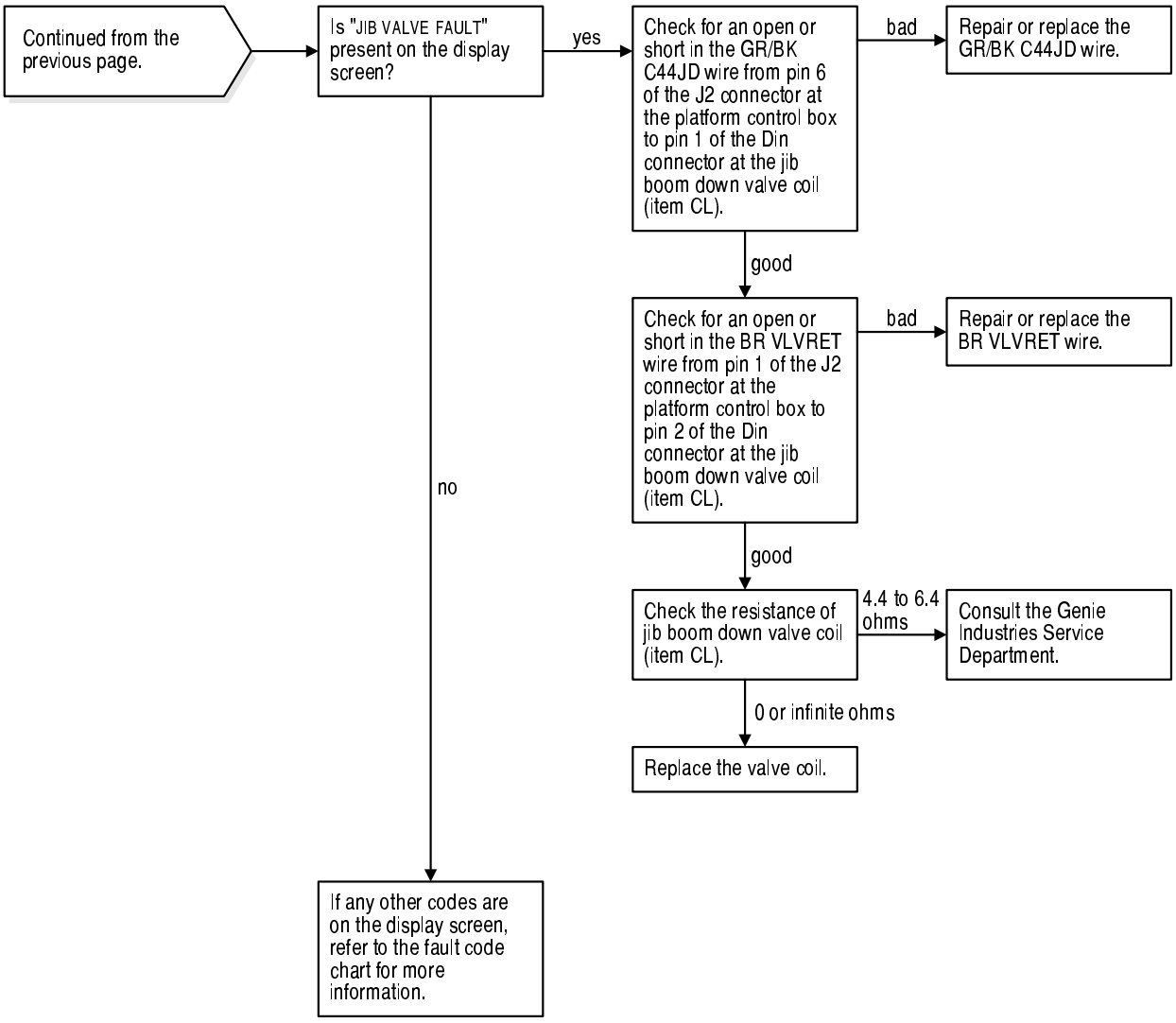

Continued from the previous page.
Is "JIB VALVE FAULT" present on the display screen?
yes
no
Check for an open or short in the GR/BK C44JD wire from pin 6 of the J2 connector at the platform control box to pin 1 of the Din connector at the jib boom down valve coil (item CL).
bad
Repair or replace the GR/BK C44JD wire.
good
Check for an open or short in the BR VLVRET wire from pin 1 of the J2 connector at the platform control box to pin 2 of the Din connector at the jib boom down valve coil (item CL).
bad
Repair or replace the BR VLVRET wire.
good
Check the resistance of jib boom down valve coil (item CL).
4.4 to 6.4 ohms
Consult the Genie Industries Service Department.
0 or infinite ohms
Replace the valve coil.
If any other codes are on the display screen, refer to the fault code chart for more information.

Chart 32

Auxiliariy Functions Inoperative

Be sure all other functions operate normally.

Be sure the batteries are fully charged and properly connected.

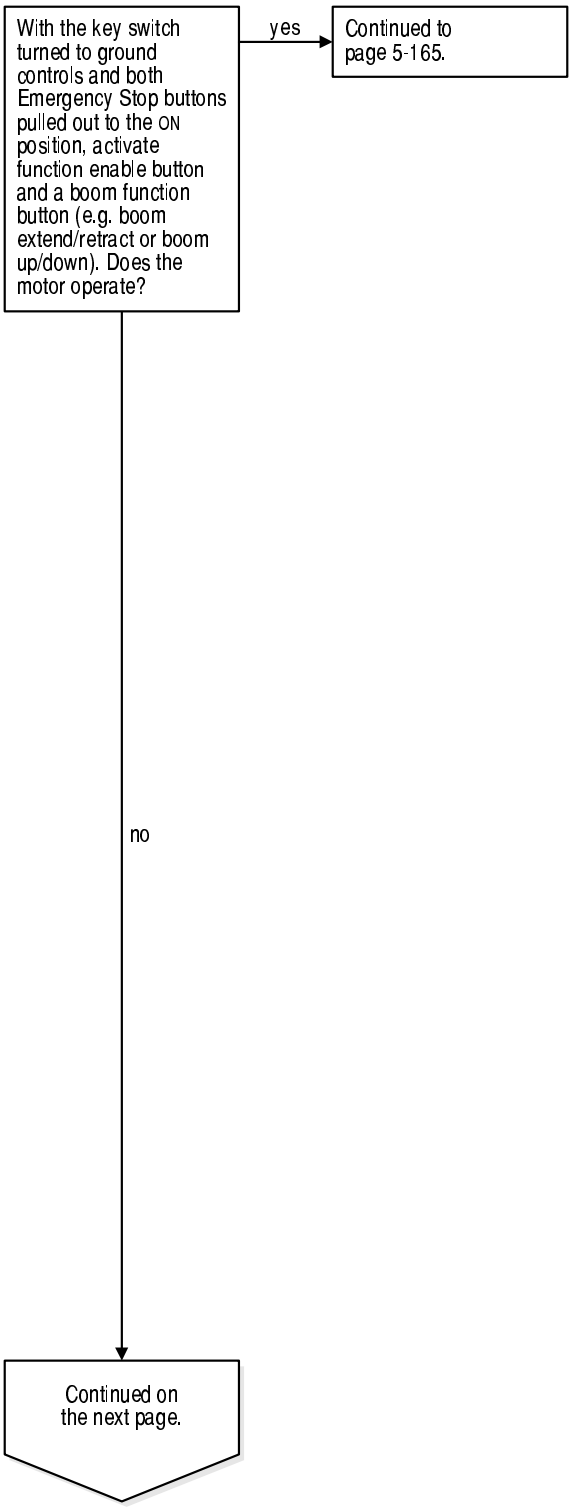

With the key switch turned to ground controls and both Emergency Stop buttons pulled out to the ON position, activate function enable button and a boom function button (e.g. boom extend/retract or boom up/down). Does the motor operate?
yes
Continued to page 5-165.
no
Continued on the next page.

CHART 32

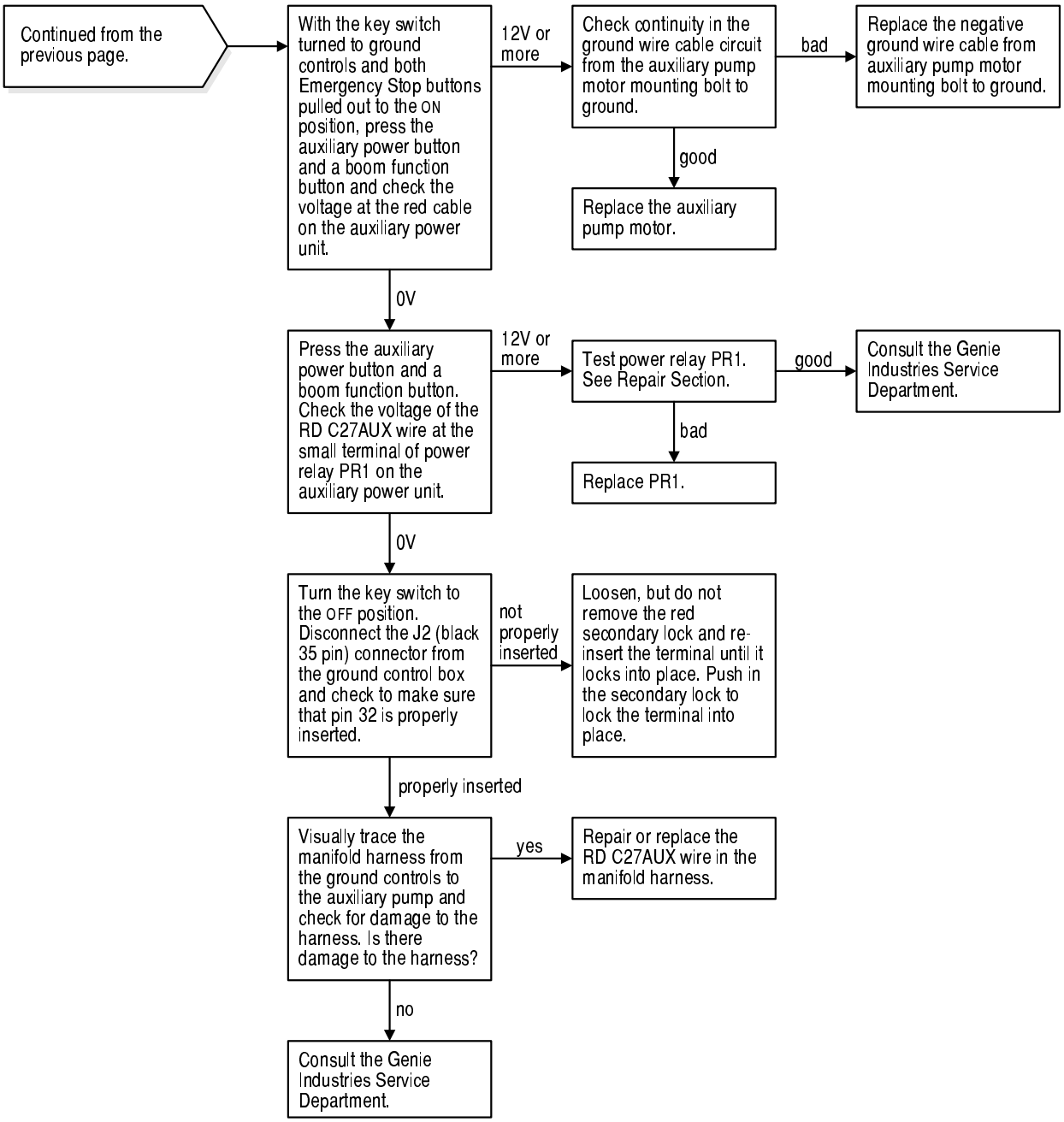

Continued from the previous page.
With the key switch turned to ground controls and both Emergency Stop buttons pulled out to the ON position, press the auxiliary power button and a boom function button and check the voltage at the red cable on the auxiliary power unit.
12V or more
Check continuity in the ground wire cable circuit from the auxiliary pump motor mounting bolt to ground.
bad
Replace the negative ground wire cable from auxiliary pump motor mounting bolt to ground.
good
Replace the auxiliary pump motor.
0V
Press the auxiliary power button and a boom function button. Check the voltage of the RD C27AUX wire at the small terminal of power relay PR1 on the auxiliary power unit.
12V or more
Test power relay PR1. See Repair Section.
good
Consult the Genie Industries Service Department.
bad
Replace PR1.
0V
Turn the key switch to the OFF position. Disconnect the J2 (black 35 pin) connector from the ground control box and check to make sure that pin 32 is properly inserted.
not properly inserted
Loosen, but do not remove the red secondary lock and re-insert the terminal until it locks into place. Push in the secondary lock to lock the terminal into place.
properly inserted
Visually trace the manifold harness from the ground controls to the auxiliary pump and check for damage to the harness. Is there damage to the harness?
yes
Repair or replace the RD C27AUX wire in the manifold harness.
no
Consult the Genie Industries Service Department.

CHART 32

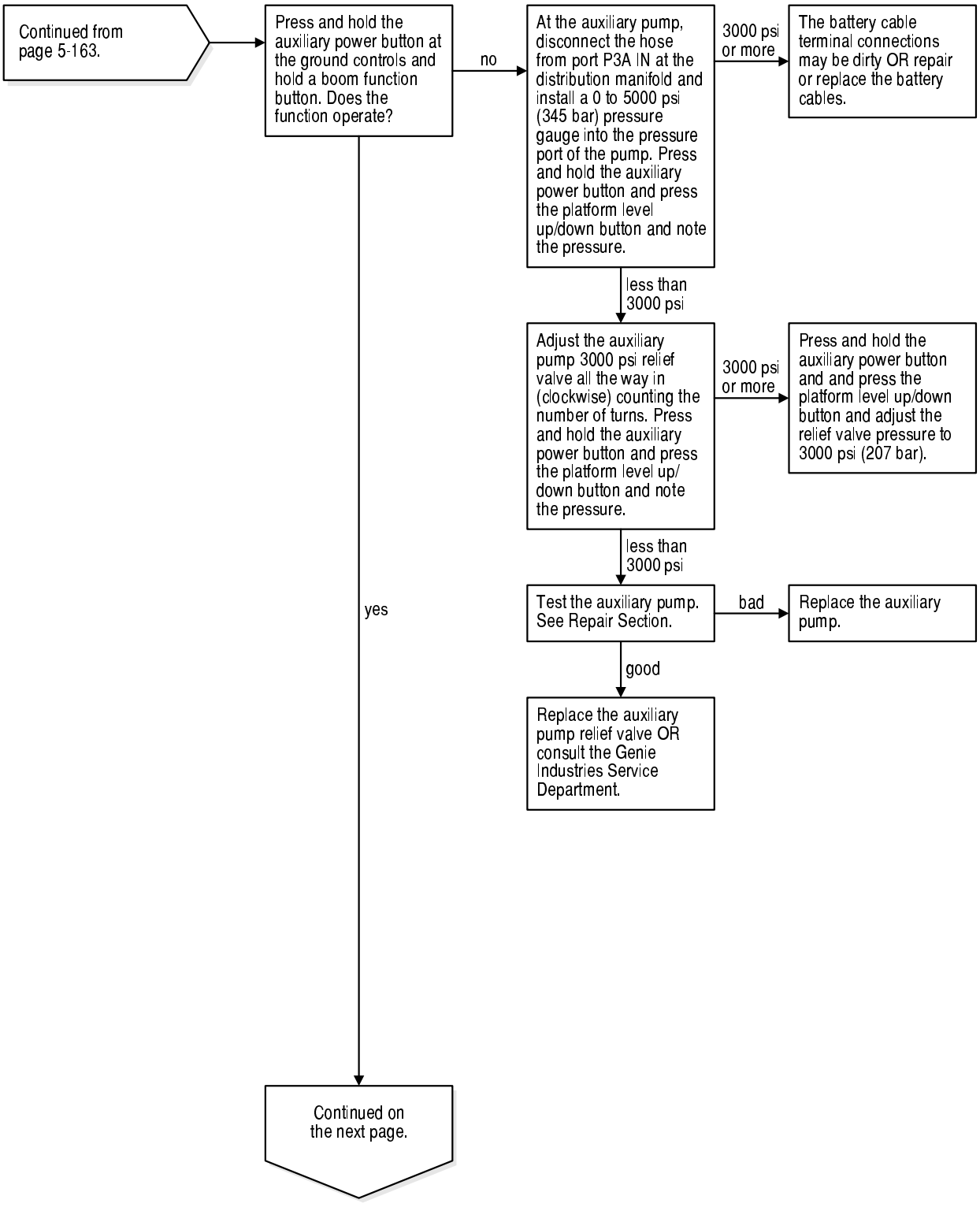

Continued from page 5-163.
Press and hold the auxiliary power button at the ground controls and hold a boom function button. Does the function operate?
no
yes
At the auxiliary pump, disconnect the hose from port P3A IN at the distribution manifold and install a 0 to 5000 psi (345 bar) pressure gauge into the pressure port of the pump. Press and hold the auxiliary power button and press the platform level up/down button and note the pressure.
3000 psi or more
The battery cable terminal connections may be dirty OR repair or replace the battery cables.
less than 3000 psi
Adjust the auxiliary pump 3000 psi relief valve all the way in (clockwise) counting the number of turns. Press and hold the auxiliary power button and press the platform level up/down button and note the pressure.
3000 psi or more
Press and hold the auxiliary power button and and press the platform level up/down button and adjust the relief valve pressure to 3000 psi (207 bar).
less than 3000 psi
Test the auxiliary pump. See Repair Section.
bad
Replace the auxiliary pump.
good
Replace the auxiliary pump relief valve OR consult the Genie Industries Service Department.
Continued on the next page.

CHART 32

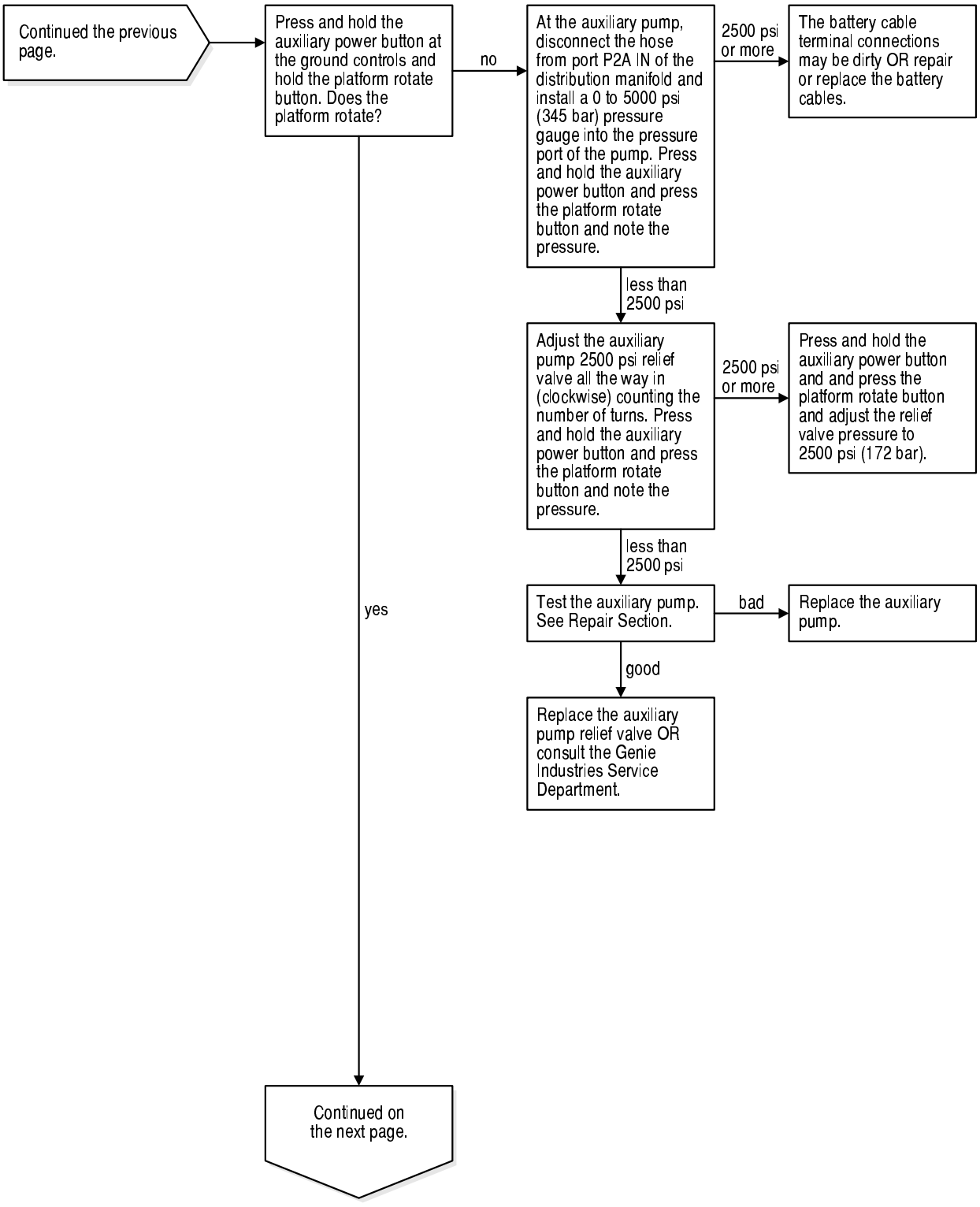

Continued the previous page.
Press and hold the auxiliary power button at the ground controls and hold the platform rotate button. Does the platform rotate?
no
At the auxiliary pump, disconnect the hose from port P2A IN of the distribution manifold and install a 0 to 5000 psi (345 bar) pressure gauge into the pressure port of the pump. Press and hold the auxiliary power button and press the platform rotate button and note the pressure.
2500 psi or more
The battery cable terminal connections may be dirty OR repair or replace the battery cables.
less than 2500 psi
Adjust the auxiliary pump 2500 psi relief valve all the way in (clockwise) counting the number of turns. Press and hold the auxiliary power button and press the platform rotate button and note the pressure.
2500 psi or more
Press and hold the auxiliary power button and and press the platform rotate button and adjust the relief valve pressure to 2500 psi (172 bar).
less than 2500 psi
Test the auxiliary pump. See Repair Section.
bad
Replace the auxiliary pump.
good
Replace the auxiliary pump relief valve OR consult the Genie Industries Service Department.
yes
Continued on the next page.

CHART 32

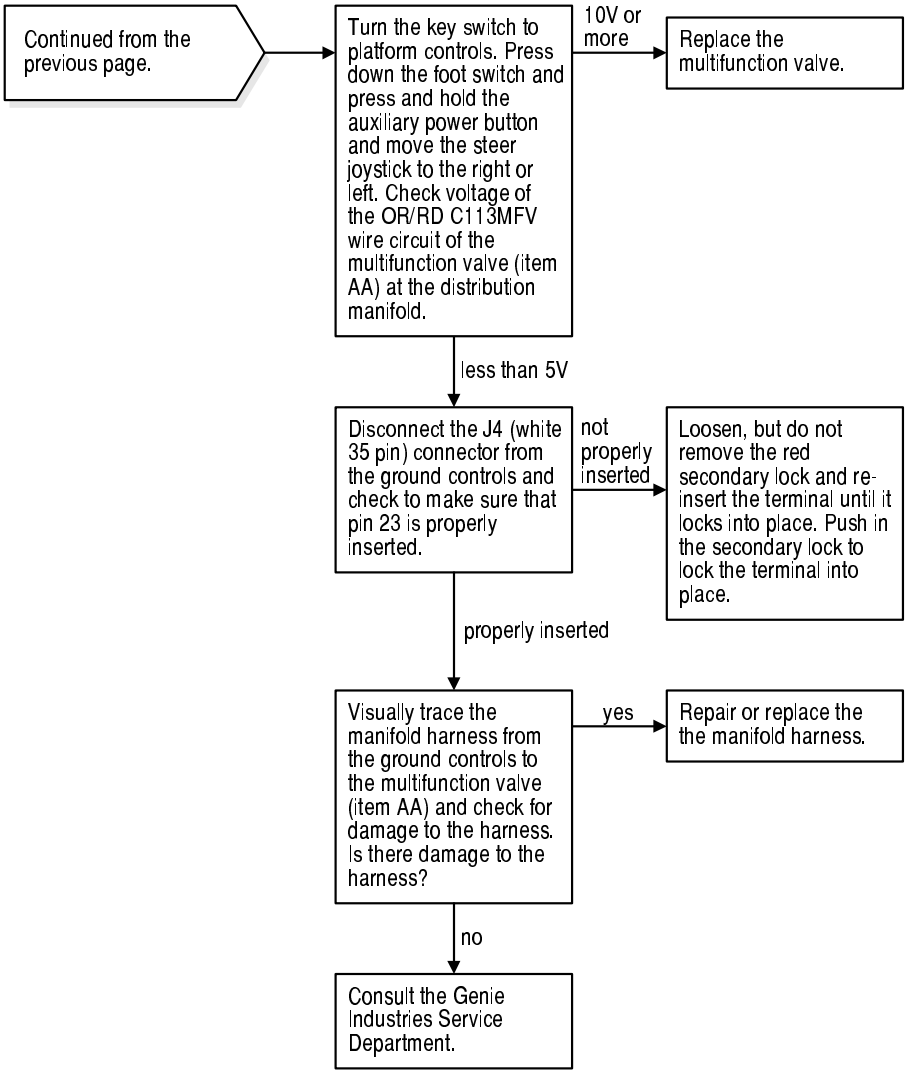

Continued from the previous page.
Turn the key switch to platform controls. Press down the foot switch and press and hold the auxiliary power button and move the steer joystick to the right or left. Check voltage of the OR/RD C113MFV wire circuit of the multifunction valve (item AA) at the distribution manifold.
10V or more
Replace the multifunction valve.
less than 5V
Disconnect the J4 (white 35 pin) connector from the ground controls and check to make sure that pin 23 is properly inserted.
not properly inserted
Loosen, but do not remove the red secondary lock and re-insert the terminal until it locks into place. Push in the secondary lock to lock the terminal into place.
properly inserted
Visually trace the manifold harness from the ground controls to the multifunction valve (item AA) and check for damage to the harness. Is there damage to the harness?
yes
Repair or replace the the manifold harness.
no
Consult the Genie Industries Service Department.

Chart 33

Axle Extend Function Inoperative

Be sure all other functions operate normally.

Be sure the batteries are fully charged and properly connected.

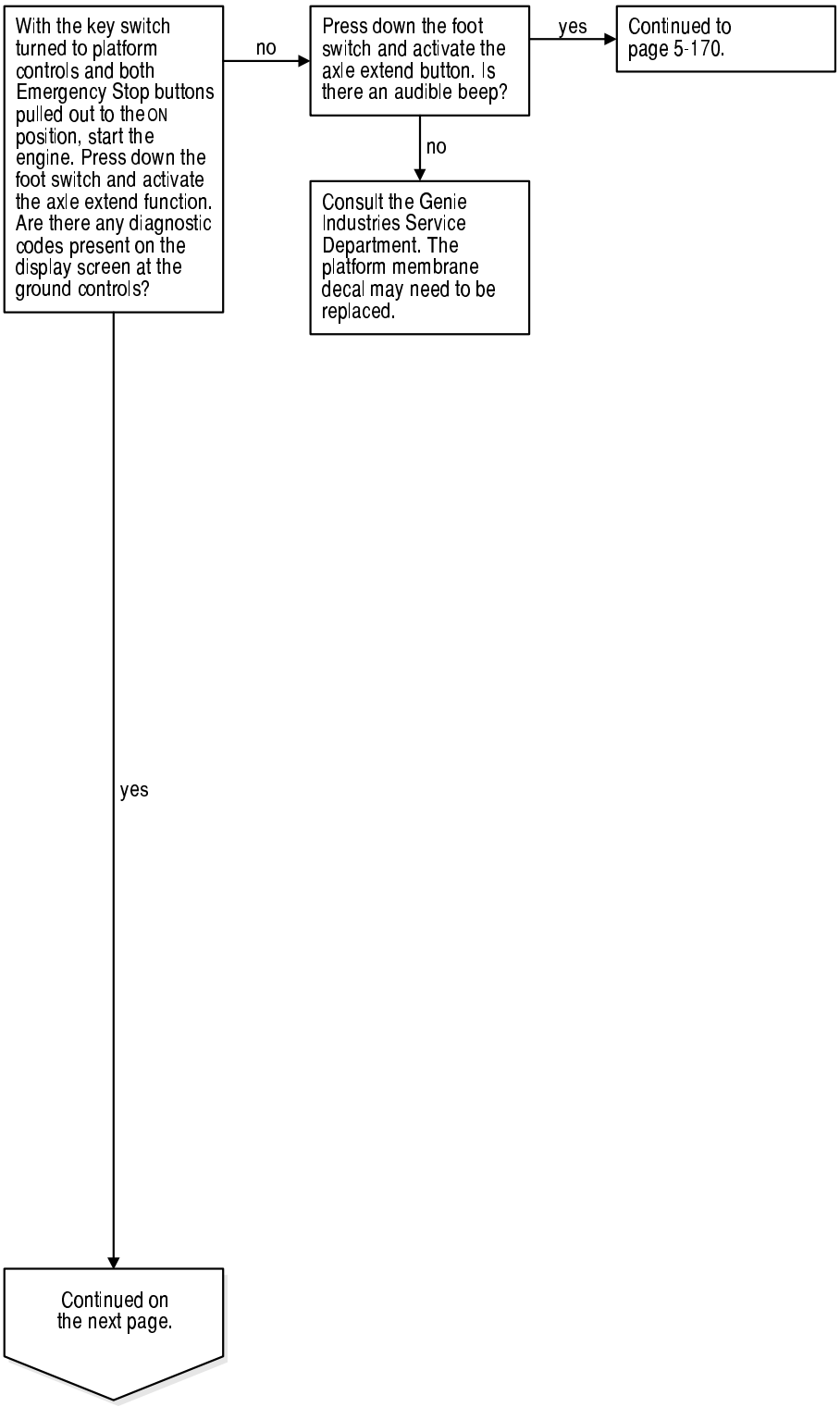

With the key switch turned to platform controls and both Emergency Stop buttons pulled out to the ON position, start the engine. Press down the foot switch and activate the axle extend function. Are there any diagnostic codes present on the display screen at the ground controls?
no
Press down the foot switch and activate the axle extend button. Is there an audible beep?
yes
Continued to page 5-170.
no
Consult the Genie Industries Service Department. The platform membrane decal may need to be replaced.
yes
Continued on the next page.

CHART 33

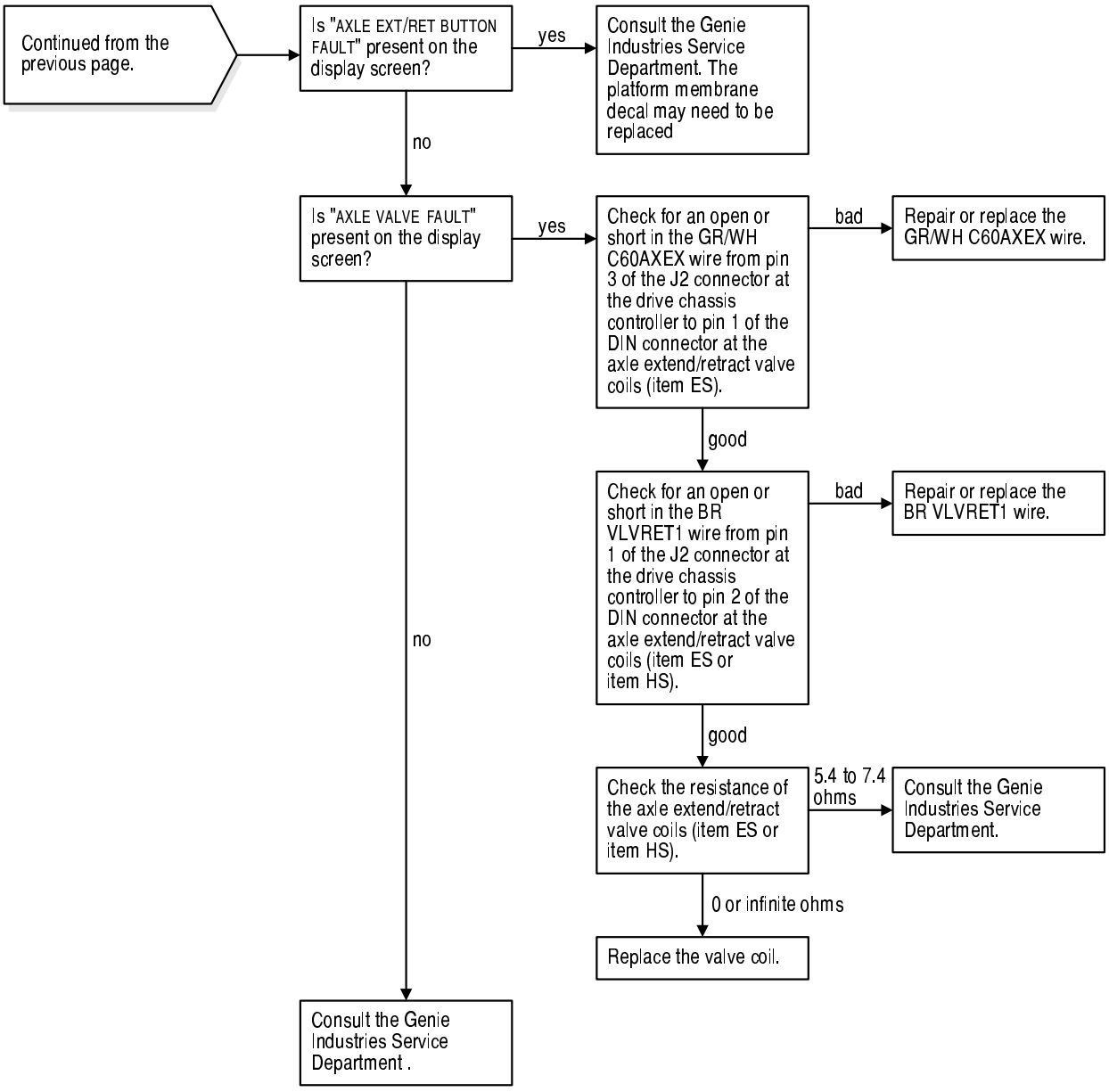

Continued from the previous page.
Is "AXLE EXT/RET BUTTON FAULT" present on the display screen?
yes
Consult the Genie Industries Service Department. The platform membrane decal may need to be replaced
no
Is "AXLE VALVE FAULT" present on the display screen?
yes
Check for an open or short in the GR/WH C60AXEX wire from pin 3 of the J2 connector at the drive chassis controller to pin 1 of the DIN connector at the axle extend/retract valve coils (item ES).
bad
Repair or replace the GR/WH C60AXEX wire.
good
Check for an open or short in the BR VLVRET1 wire from pin 1 of the J2 connector at the drive chassis controller to pin 2 of the DIN connector at the axle extend/retract valve coils (item ES or item HS).
bad
Repair or replace the BR VLVRET1 wire.
good
Check the resistance of the axle extend/retract valve coils (item ES or item HS).
5.4 to 7.4 ohms
Consult the Genie Industries Service Department.
0 or infinite ohms
Replace the valve coil.
no
Consult the Genie Industries Service Department .

CHART 33

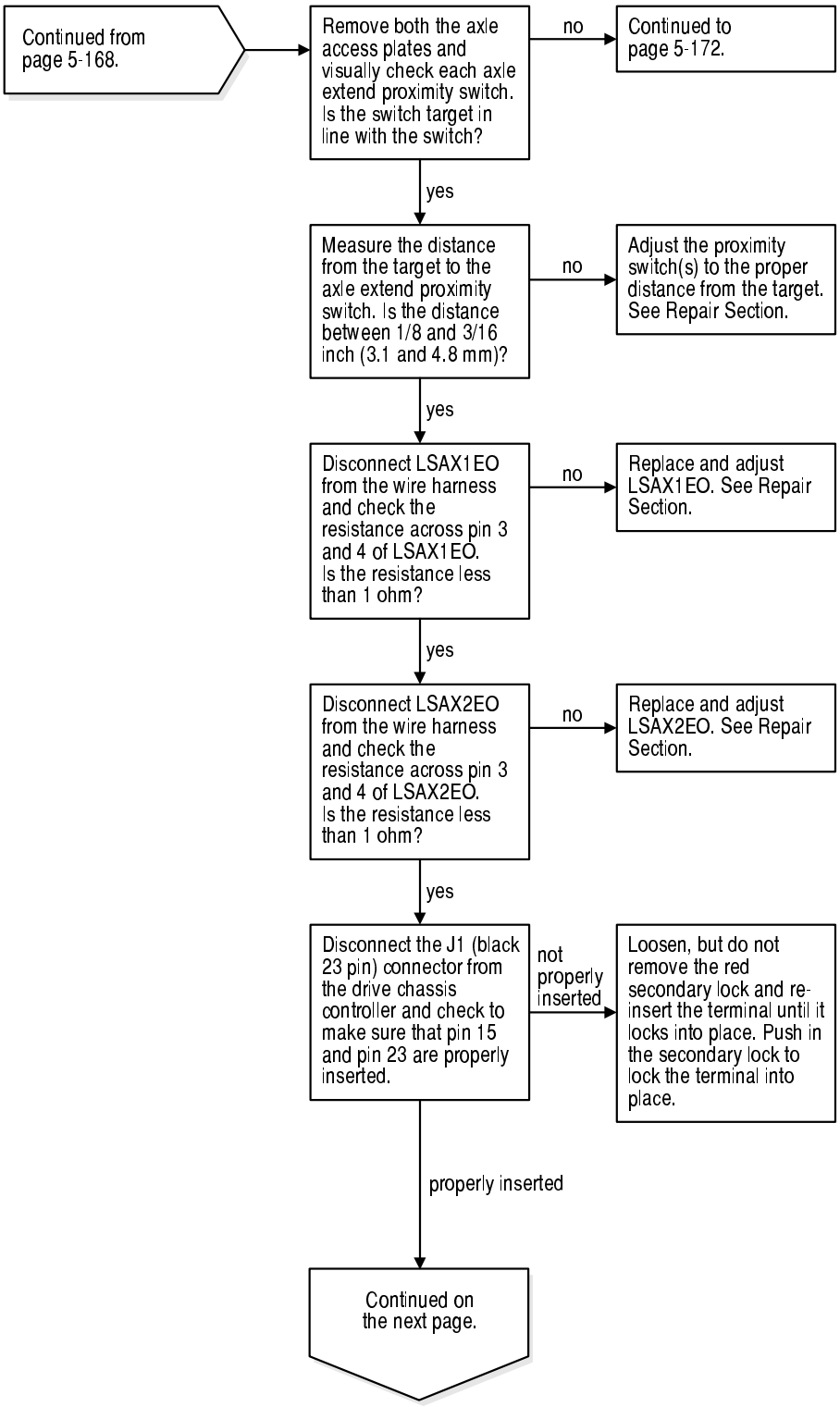

Continued from page 5-168.
Remove both the axle access plates and visually check each axle extend proximity switch. Is the switch target in line with the switch?
no
Continued to page 5-172.
yes
Measure the distance from the target to the axle extend proximity switch. Is the distance between 1/8 and 3/16 inch (3.1 and 4.8 mm)?
no
Adjust the proximity switch(s) to the proper distance from the target. See Repair Section.
yes
Disconnect LSAX1EO from the wire harness and check the resistance across pin 3 and 4 of LSAX1EO. Is the resistance less than 1 ohm?
no
Replace and adjust LSAX1EO. See Repair Section.
yes
Disconnect LSAX2EO from the wire harness and check the resistance across pin 3 and 4 of LSAX2EO. Is the resistance less than 1 ohm?
no
Replace and adjust LSAX2EO. See Repair Section.
yes
Disconnect the J1 (black 23 pin) connector from the drive chassis controller and check to make sure that pin 15 and pin 23 are properly inserted.
not properly inserted
Loosen, but do not remove the red secondary lock and re-insert the terminal until it locks into place. Push in the secondary lock to lock the terminal into place.
properly inserted
Continued on the next page.

CHART 33

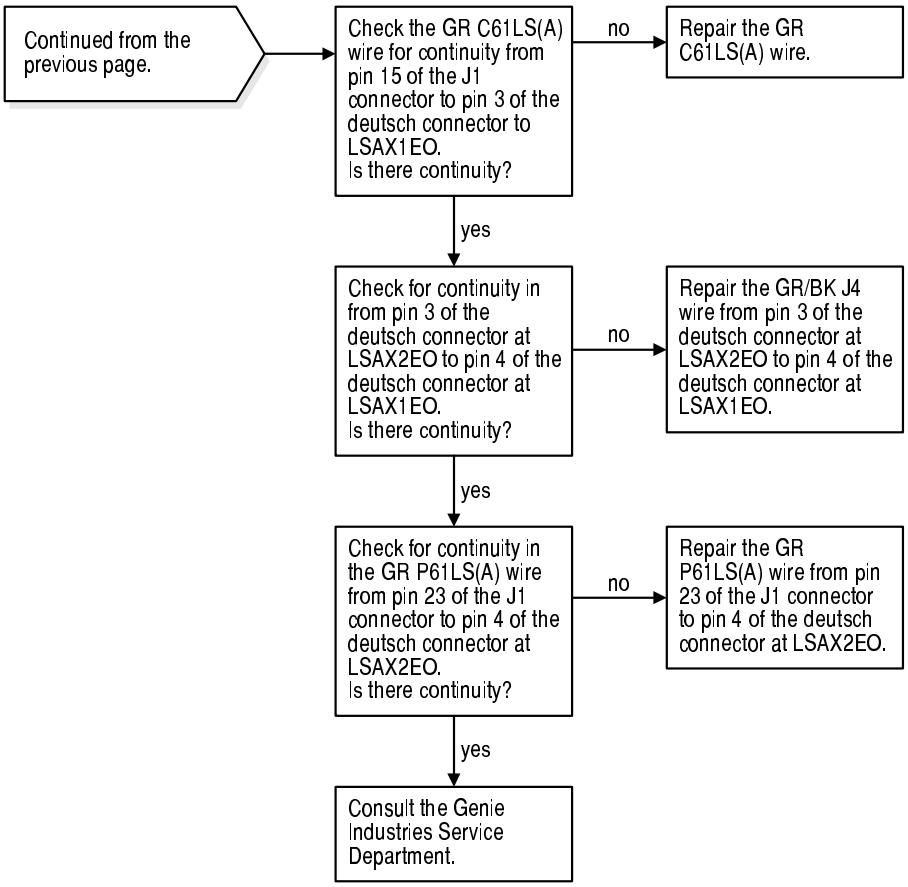

Continued from the previous page.
Check the GR C61LS(A) wire for continuity from pin 15 of the J1 connector to pin 3 of the deutsch connector to LSAX1EO. Is there continuity?
no
Repair the GR C61LS(A) wire.
yes
Check for continuity in from pin 3 of the deutsch connector at LSAX2EO to pin 4 of the deutsch connector at LSAX1EO. Is there continuity?
no
Repair the GR/BK J4 wire from pin 3 of the deutsch connector at LSAX2EO to pin 4 of the deutsch connector at LSAX1EO.
yes
Check for continuity in the GR P61LS(A) wire from pin 23 of the J1 connector to pin 4 of the deutsch connector at LSAX2EO. Is there continuity?
no
Repair the GR P61LS(A) wire from pin 23 of the J1 connector to pin 4 of the deutsch connector at LSAX2EO.
yes
Consult the Genie Industries Service Department.

CHART 33

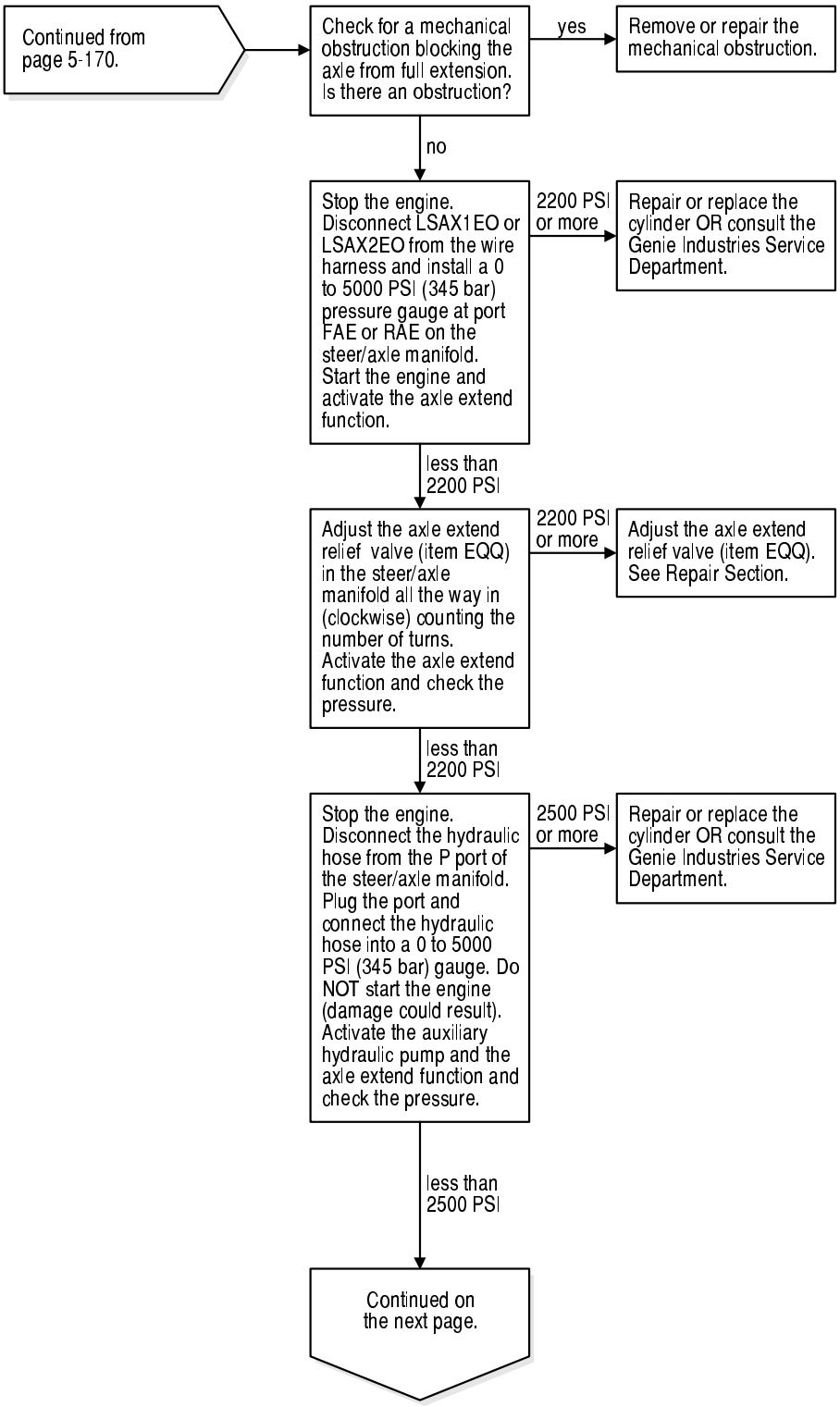

Continued from page 5-170.
Check for a mechanical obstruction blocking the axle from full extension. Is there an obstruction?
yes
Remove or repair the mechanical obstruction.
no
Stop the engine. Disconnect LSAX1EO or LSAX2EO from the wire harness and install a 0 to 5000 PSI (345 bar) pressure gauge at port FAE or RAE on the steer/axle manifold. Start the engine and activate the axle extend function.
2200 PSI or more
Repair or replace the cylinder OR consult the Genie Industries Service Department.
less than 2200 PSI
Adjust the axle extend relief valve (item EQQ) in the steer/axle manifold all the way in (clockwise) counting the number of turns. Activate the axle extend function and check the pressure.
2200 PSI or more
Adjust the axle extend relief valve (item EQQ). See Repair Section.
less than 2200 PSI
Stop the engine. Disconnect the hydraulic hose from the P port of the steer/axle manifold. Plug the port and connect the hydraulic hose into a 0 to 5000 PSI (345 bar) gauge. Do NOT start the engine (damage could result). Activate the auxiliary hydraulic pump and the axle extend function and check the pressure.
2500 PSI or more
Repair or replace the cylinder OR consult the Genie Industries Service Department.
less than 2500 PSI
Continued on the next page.

CHART 33

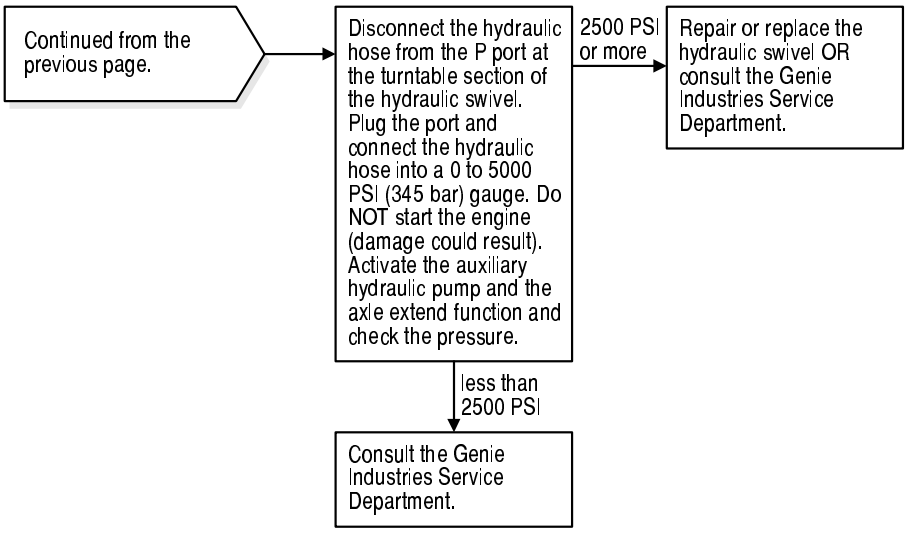

Continued from the previous page.
Disconnect the hydraulic hose from the P port at the turntable section of the hydraulic swivel. Plug the port and connect the hydraulic hose into a 0 to 5000 PSI (345 bar) gauge. Do NOT start the engine (damage could result). Activate the auxiliary hydraulic pump and the axle extend function and check the pressure.
2500 PSI or more
Repair or replace the hydraulic swivel OR consult the Genie Industries Service Department.
less than 2500 PSI
Consult the Genie Industries Service Department.

Chart 34

Axle Retract Function Inoperative

Be sure the boom is in the stowed position.

Be sure all other functions operate normally.

Be sure the batteries are fully charged and properly connected.

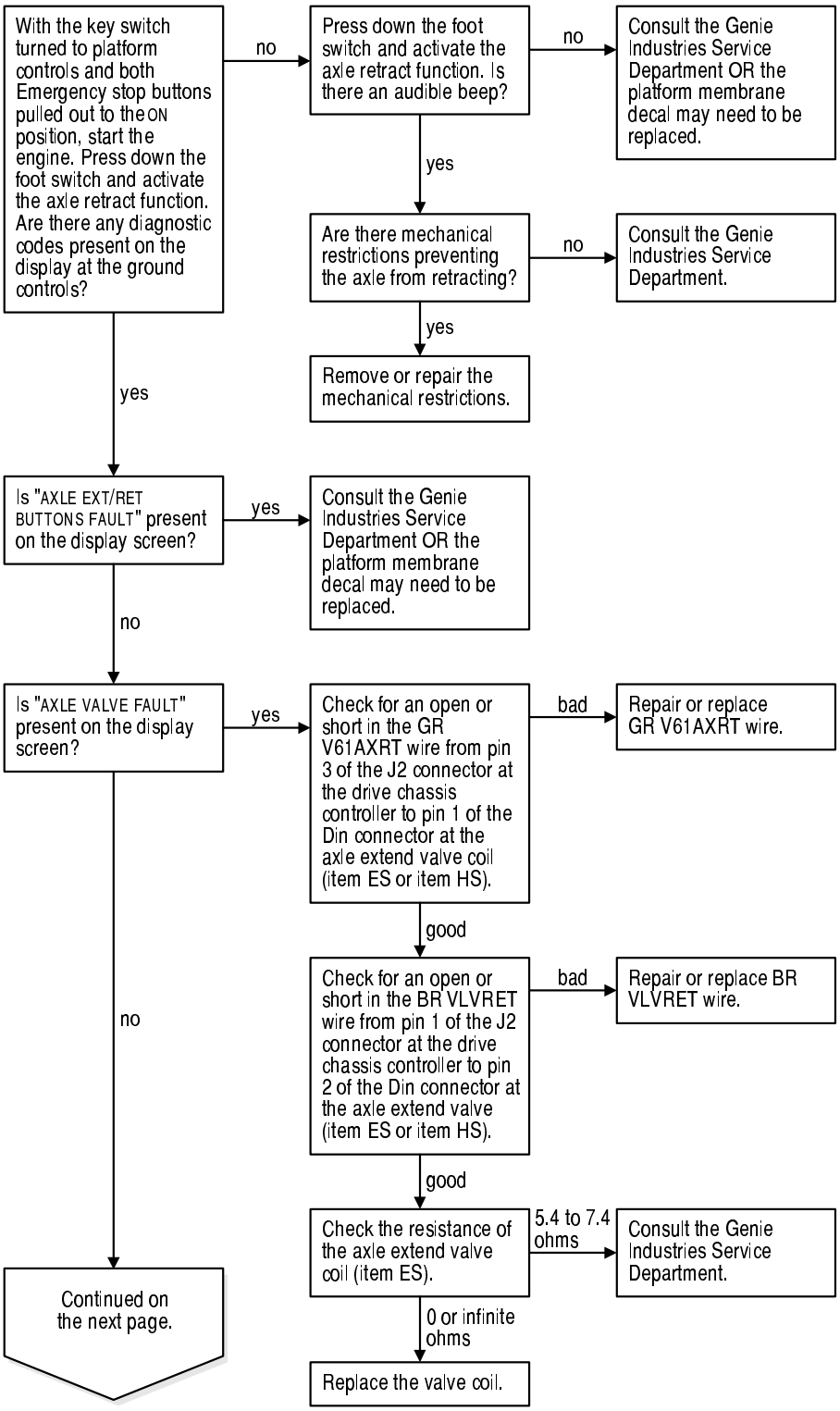

With the key switch turned to platform controls and both Emergency stop buttons pulled out to the ON position, start the engine. Press down the foot switch and activate the axle retract function. Are there any diagnostic codes present on the display at the ground controls?
no
Press down the foot switch and activate the axle retract function. Is there an audible beep?
no
Consult the Genie Industries Service Department OR the platform membrane decal may need to be replaced.
yes
Are there mechanical restrictions preventing the axle from retracting?
no
Consult the Genie Industries Service Department.
yes
Remove or repair the mechanical restrictions.
yes
Is "AXLE EXT/RET BUTTONS FAULT" present on the display screen?
yes
Consult the Genie Industries Service Department OR the platform membrane decal may need to be replaced.
no
Is "AXLE VALVE FAULT" present on the display screen?
yes
Check for an open or short in the GR V61AXRT wire from pin 3 of the J2 connector at the drive chassis controller to pin 1 of the Din connector at the axle extend valve coil (item ES or item HS).
bad
Repair or replace GR V61AXRT wire.
good
Check for an open or short in the BR VLVRET wire from pin 1 of the J2 connector at the drive chassis controller to pin 2 of the Din connector at the axle extend valve (item ES or item HS).
bad
Repair or replace BR VLVRET wire.
good
Check the resistance of the axle extend valve coil (item ES).
5.4 to 7.4 ohms
Consult the Genie Industries Service Department.
0 or infinite ohms
Replace the valve coil.
no
Continued on the next page.

CHART 34

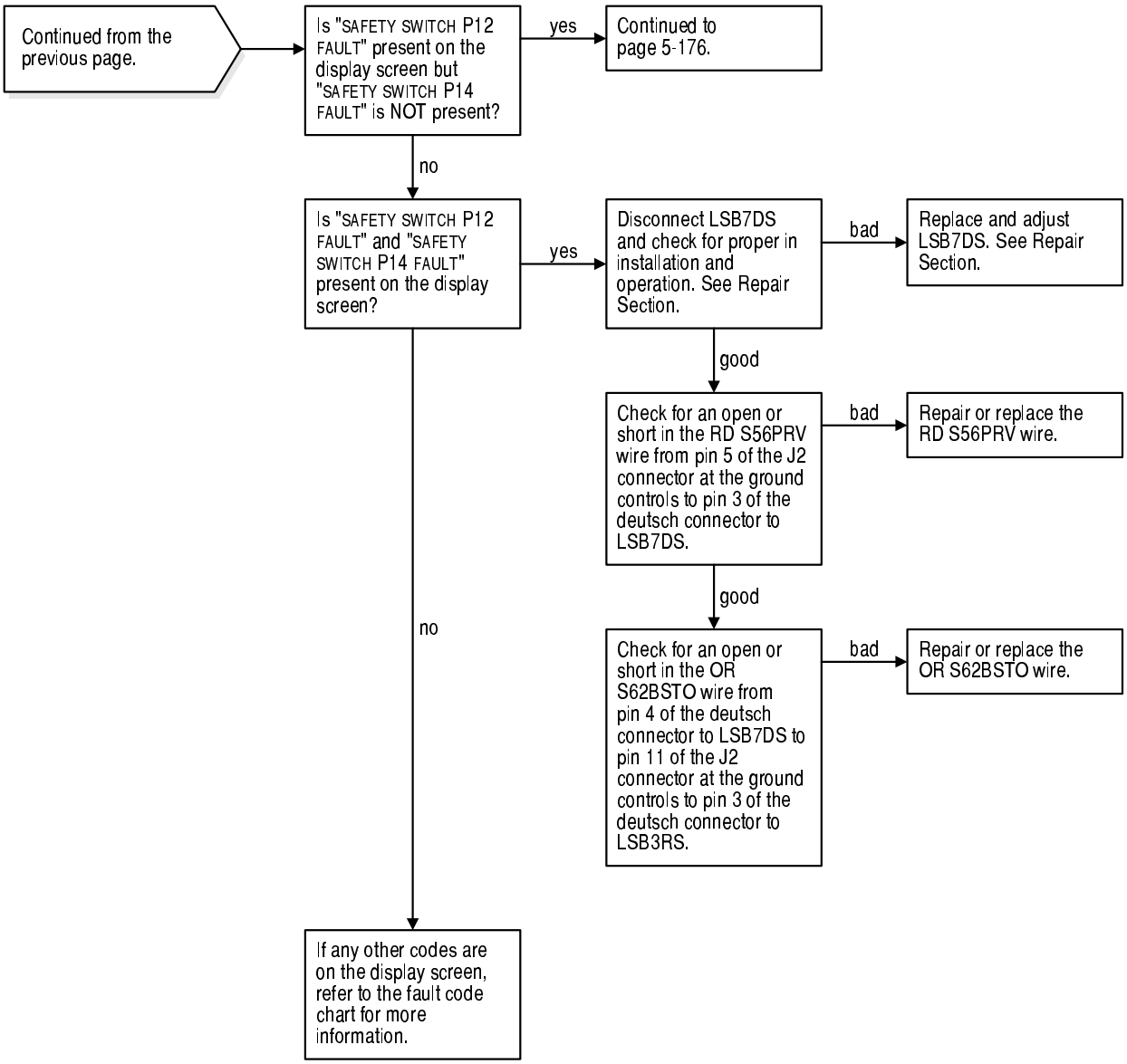

Continued from the previous page.
Is "SAFETY SWITCH P12 FAULT" present on the display screen but "SAFETY SWITCH P14 FAULT" is NOT present?
yes
Continued to page 5-176.
no
Is "SAFETY SWITCH P12 FAULT" and "SAFETY SWITCH P14 FAULT" present on the display screen?
yes
Disconnect LSB7DS and check for proper in installation and operation. See Repair Section.
bad
Replace and adjust LSB7DS. See Repair Section.
good
Check for an open or short in the RD S56PRV wire from pin 5 of the J2 connector at the ground controls to pin 3 of the deutsch connector to LSB7DS.
bad
Repair or replace the RD S56PRV wire.
good
Check for an open or short in the OR S62BSTO wire from pin 4 of the deutsch connector to LSB7DS to pin 11 of the J2 connector at the ground controls to pin 3 of the deutsch connector to LSB3RS.
bad
Repair or replace the OR S62BSTO wire.
no
If any other codes are on the display screen, refer to the fault code chart for more information.

CHART 34

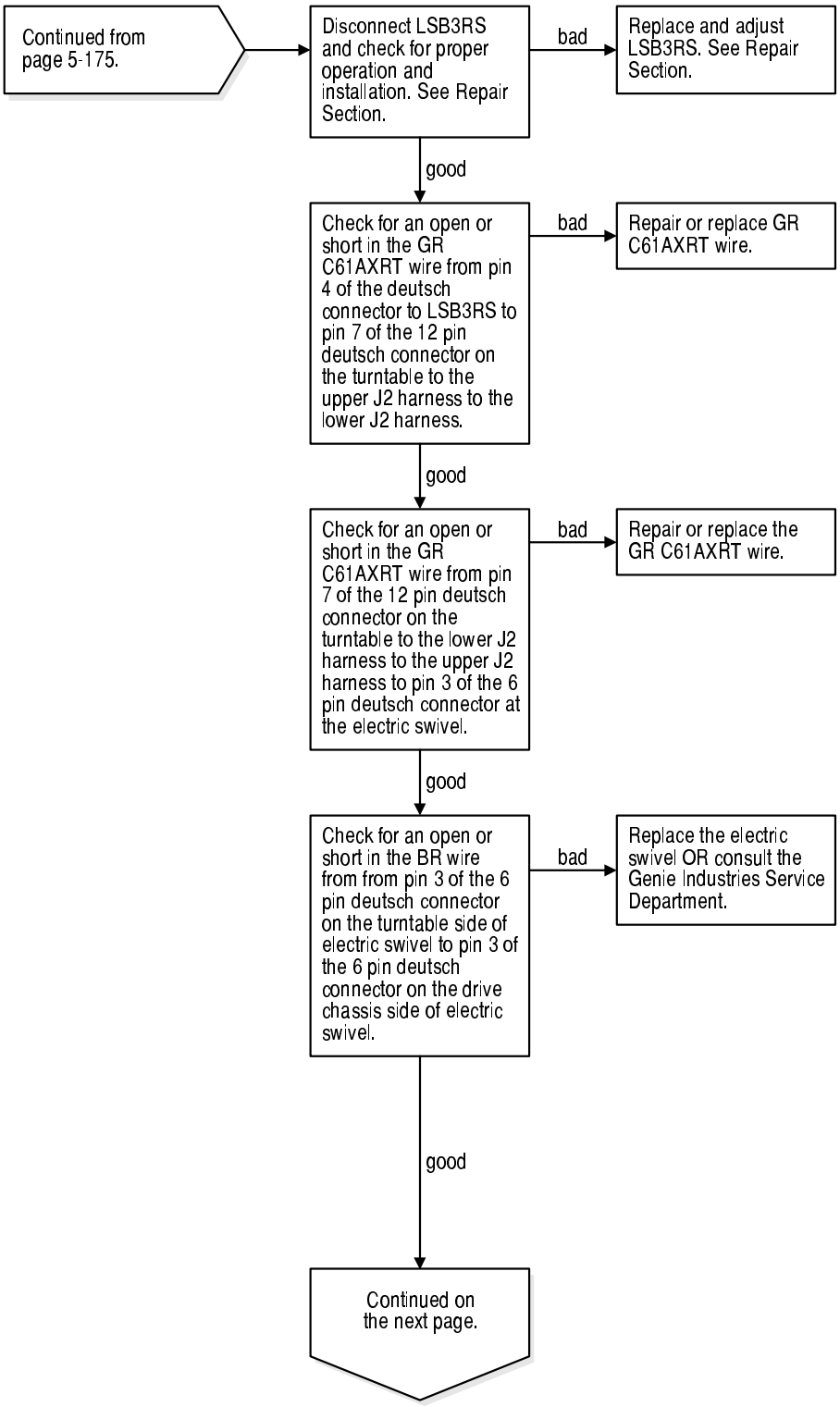

Continued from page 5-175.
Disconnect LSB3RS and check for proper operation and installation. See Repair Section.
bad
Replace and adjust LSB3RS. See Repair Section.
good
Check for an open or short in the GR C61AXRT wire from pin 4 of the deutsch connector to LSB3RS to pin 7 of the 12 pin deutsch connector on the turntable to the upper J2 harness to the lower J2 harness.
bad
Repair or replace GR C61AXRT wire.
good
Check for an open or short in the GR C61AXRT wire from pin 7 of the 12 pin deutsch connector on the turntable to the lower J2 harness to the upper J2 harness to pin 3 of the 6 pin deutsch connector at the electric swivel.
bad
Repair or replace the GR C61AXRT wire.
good
Check for an open or short in the BR wire from from pin 3 of the 6 pin deutsch connector on the turntable side of electric swivel to pin 3 of the 6 pin deutsch connector on the drive chassis side of electric swivel.
bad
Replace the electric swivel OR consult the Genie Industries Service Department.
good
Continued on the next page.

CHART 34

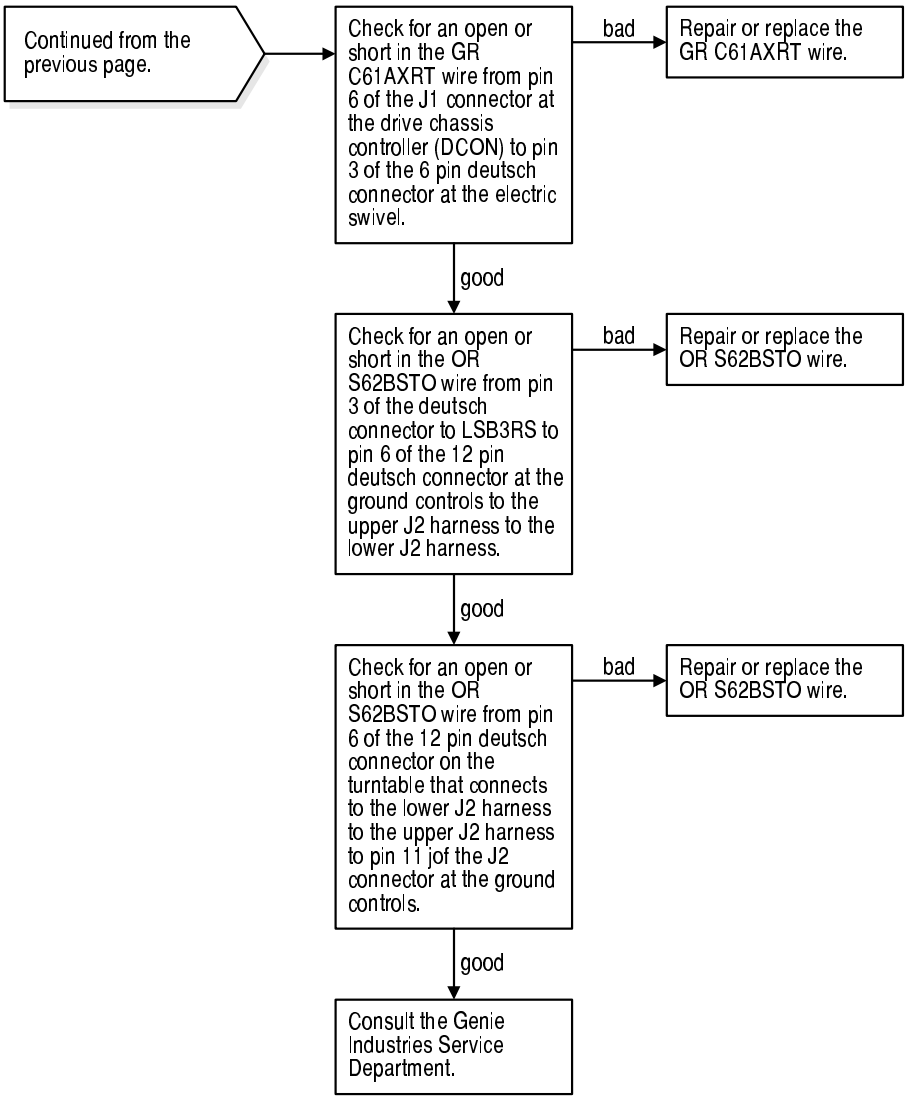

Continued from the previous page.
Check for an open or short in the GR C61AXRT wire from pin 6 of the J1 connector at the drive chassis controller (DCON) to pin 3 of the 6 pin deutsch connector at the electric swivel.
bad
Repair or replace the GR C61AXRT wire.
good
Check for an open or short in the OR S62BSTO wire from pin 3 of the deutsch connector to LSB3RS to pin 6 of the 12 pin deutsch connector at the ground controls to the upper J2 harness to the lower J2 harness.
bad
Repair or replace the OR S62BSTO wire.
good
Check for an open or short in the OR S62BSTO wire from pin 6 of the 12 pin deutsch connector on the turntable that connects to the lower J2 harness to the upper J2 harness to pin 11 jof the J2 connector at the ground controls.
bad
Repair or replace the OR S62BSTO wire.
good
Consult the Genie Industries Service Department.

Chart 35

Blue End Blue Side Steering Function Inoperative

Be sure all other functions operate normally.

Be sure the batteries are fully charged and properly connected.

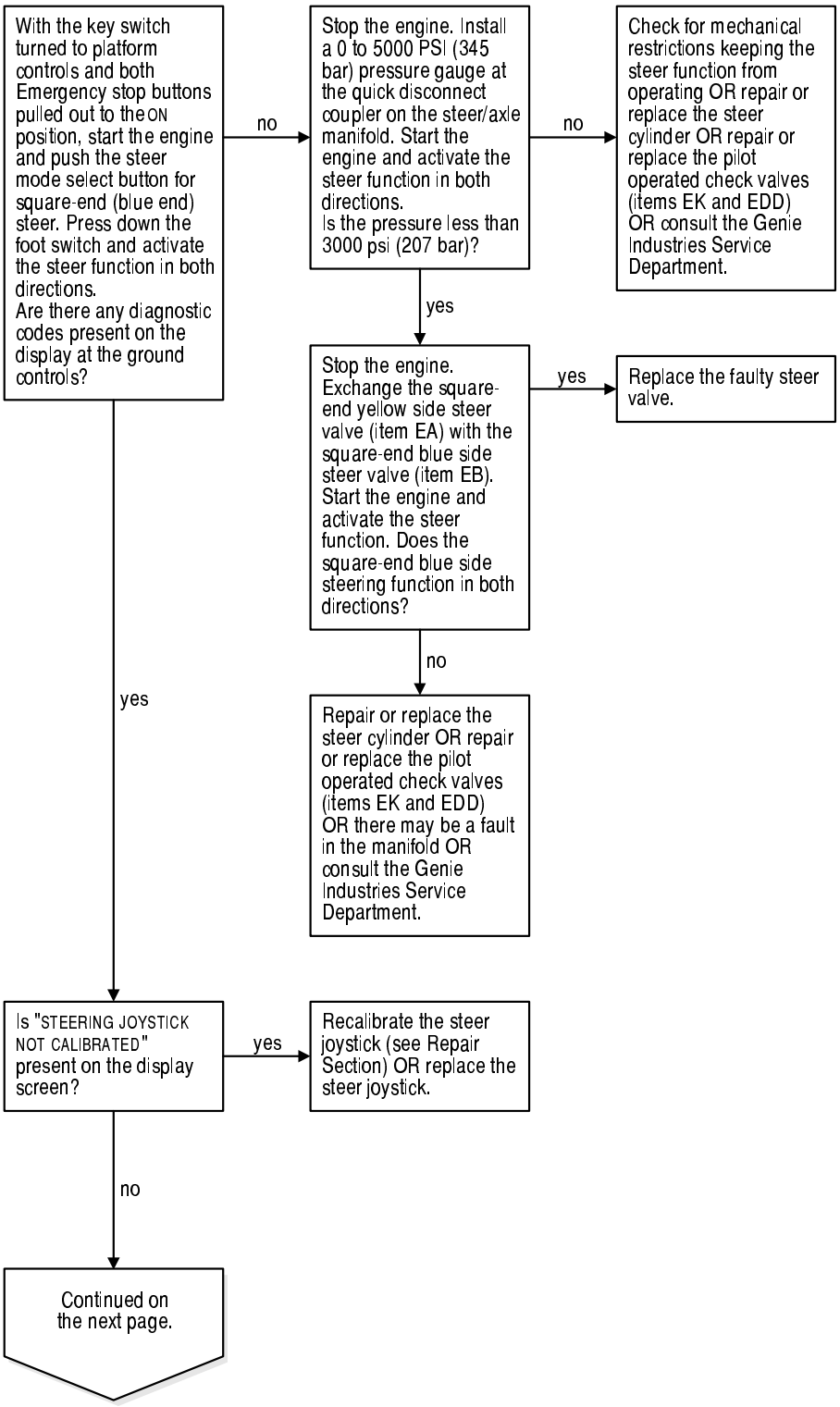

With the key switch turned to platform controls and both Emergency stop buttons pulled out to the ON position, start the engine and push the steer mode select button for square-end (blue end) steer. Press down the foot switch and activate the steer function in both directions.
Are there any diagnostic codes present on the display at the ground controls?
no
Stop the engine. Install a 0 to 5000 PSI (345 bar) pressure gauge at the quick disconnect coupler on the steer/axle manifold. Start the engine and activate the steer function in both directions.
Is the pressure less than 3000 psi (207 bar)?
no
Check for mechanical restrictions keeping the steer function from operating OR repair or replace the steer cylinder OR repair or replace the pilot operated check valves (items EK and EDD) OR consult the Genie Industries Service Department.
yes
Stop the engine. Exchange the square-end yellow side steer valve (item EA) with the square-end blue side steer valve (item EB). Start the engine and activate the steer function. Does the square-end blue side steering function in both directions?
yes
Replace the faulty steer valve.
no
Repair or replace the steer cylinder OR repair or replace the pilot operated check valves (items EK and EDD) OR there may be a fault in the manifold OR consult the Genie Industries Service Department.
yes
Is "STEERING JOYSTICK NOT CALIBRATED" present on the display screen?
yes
Recalibrate the steer joystick (see Repair Section) OR replace the steer joystick.
no
Continued on the next page.

CHART 35

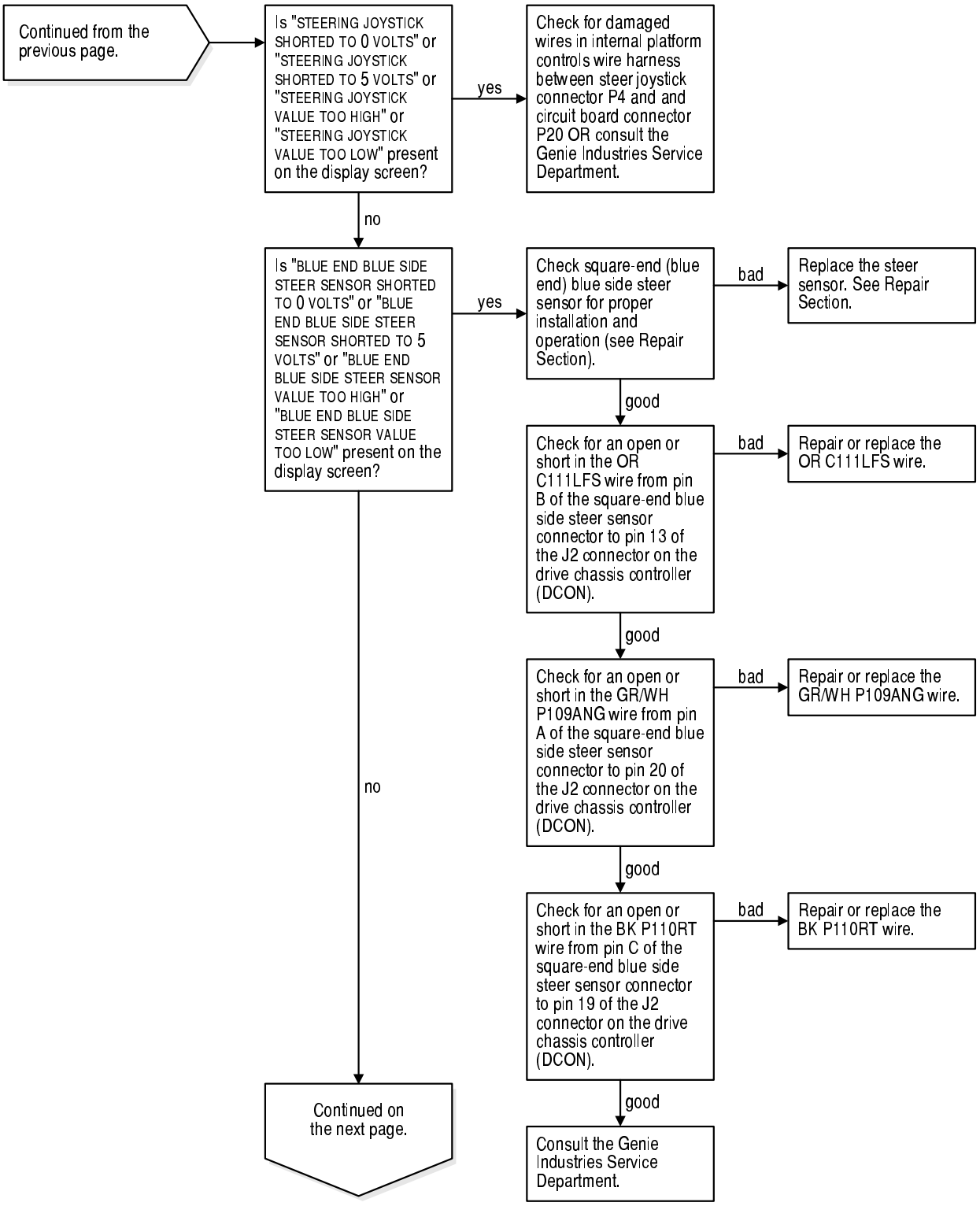

Continued from the previous page.
Is "STEERING JOYSTICK SHORTED TO 0 VOLTS" or "STEERING JOYSTICK SHORTED TO 5 VOLTS" or "STEERING JOYSTICK VALUE TOO HIGH" or "STEERING JOYSTICK VALUE TOO LOW" present on the display screen?
yes
Check for damaged wires in internal platform controls wire harness between steer joystick connector P4 and and circuit board connector P20 OR consult the Genie Industries Service Department.
no
Is "BLUE END BLUE SIDE STEER SENSOR SHORTED TO 0 VOLTS" or "BLUE END BLUE SIDE STEER SENSOR SHORTED TO 5 VOLTS" or "BLUE END BLUE SIDE STEER SENSOR VALUE TOO HIGH" or "BLUE END BLUE SIDE STEER SENSOR VALUE TOO LOW" present on the display screen?
yes
Check square-end (blue end) blue side steer sensor for proper installation and operation (see Repair Section).
bad
Replace the steer sensor. See Repair Section.
good
Check for an open or short in the OR C111LFS wire from pin B of the square-end blue side steer sensor connector to pin 13 of the J2 connector on the drive chassis controller (DCON).
bad
Repair or replace the OR C111LFS wire.
good
Check for an open or short in the GR/WH P109ANG wire from pin A of the square-end blue side steer sensor connector to pin 20 of the J2 connector on the drive chassis controller (DCON).
bad
Repair or replace the GR/WH P109ANG wire.
good
Check for an open or short in the BK P110RT wire from pin C of the square-end blue side steer sensor connector to pin 19 of the J2 connector on the drive chassis controller (DCON).
bad
Repair or replace the BK P110RT wire.
good
Consult the Genie Industries Service Department.
no
Continued on the next page.

CHART 35

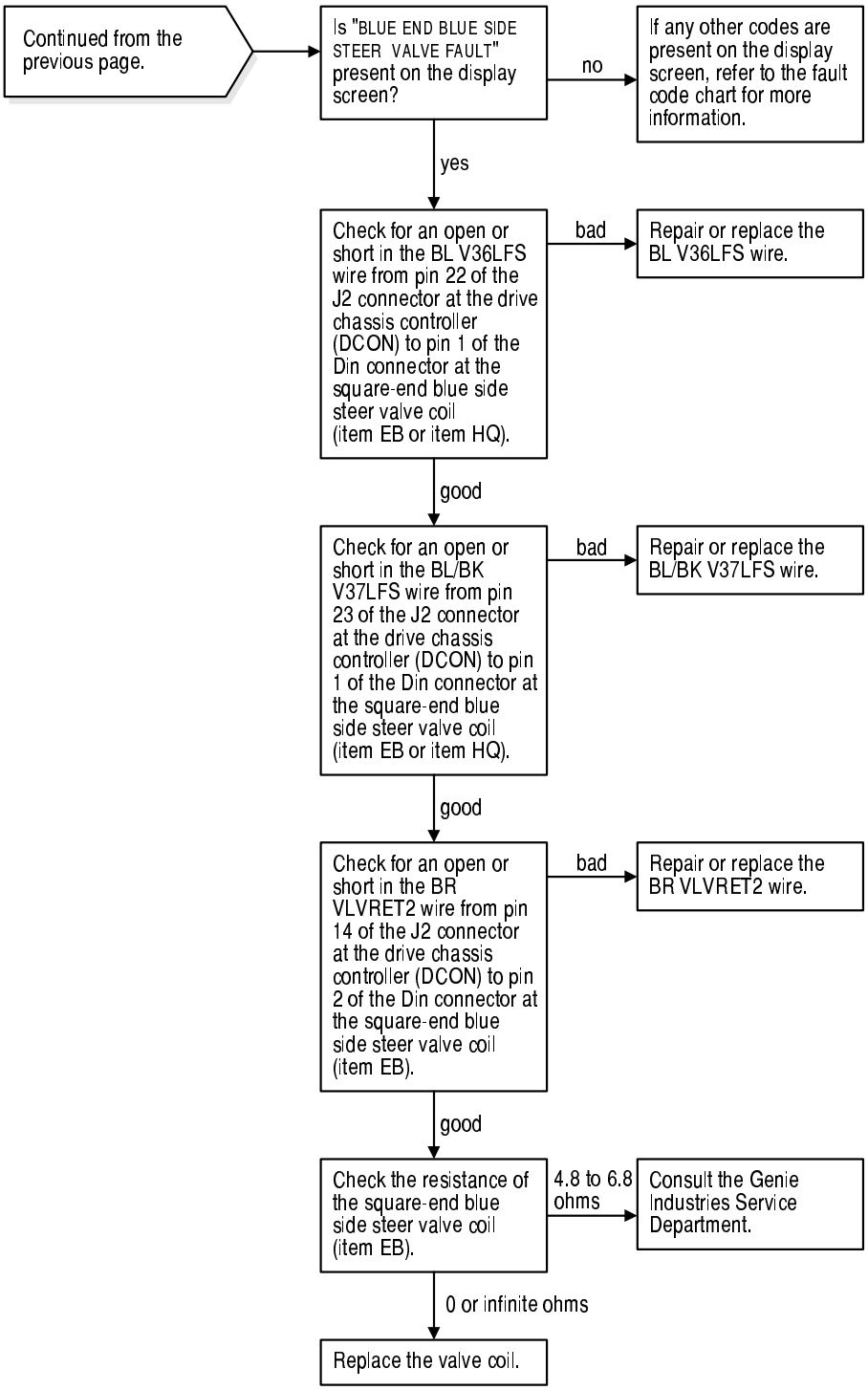

Continued from the previous page.
Is "BLUE END BLUE SIDE STEER VALVE FAULT" present on the display screen?
no
If any other codes are present on the display screen, refer to the fault code chart for more information.
yes
Check for an open or short in the BL V36LFS wire from pin 22 of the J2 connector at the drive chassis controller (DCON) to pin 1 of the Din connector at the square-end blue side steer valve coil (item EB or item HQ).
bad
Repair or replace the BL V36LFS wire.
good
Check for an open or short in the BL/BK V37LFS wire from pin 23 of the J2 connector at the drive chassis controller (DCON) to pin 1 of the Din connector at the square-end blue side steer valve coil (item EB or item HQ).
bad
Repair or replace the BL/BK V37LFS wire.
good
Check for an open or short in the BR VLVRET2 wire from pin 14 of the J2 connector at the drive chassis controller (DCON) to pin 2 of the Din connector at the square-end blue side steer valve coil (item EB).
bad
Repair or replace the BR VLVRET2 wire.
good
Check the resistance of the square-end blue side steer valve coil (item EB).
4.8 to 6.8 ohms
Consult the Genie Industries Service Department.
0 or infinite ohms
Replace the valve coil.

Chart 36

Blue End Yellow Side Steering Function Inoperative

Be sure all other functions operate normally.

Be sure the batteries are fully charged and properly connected.

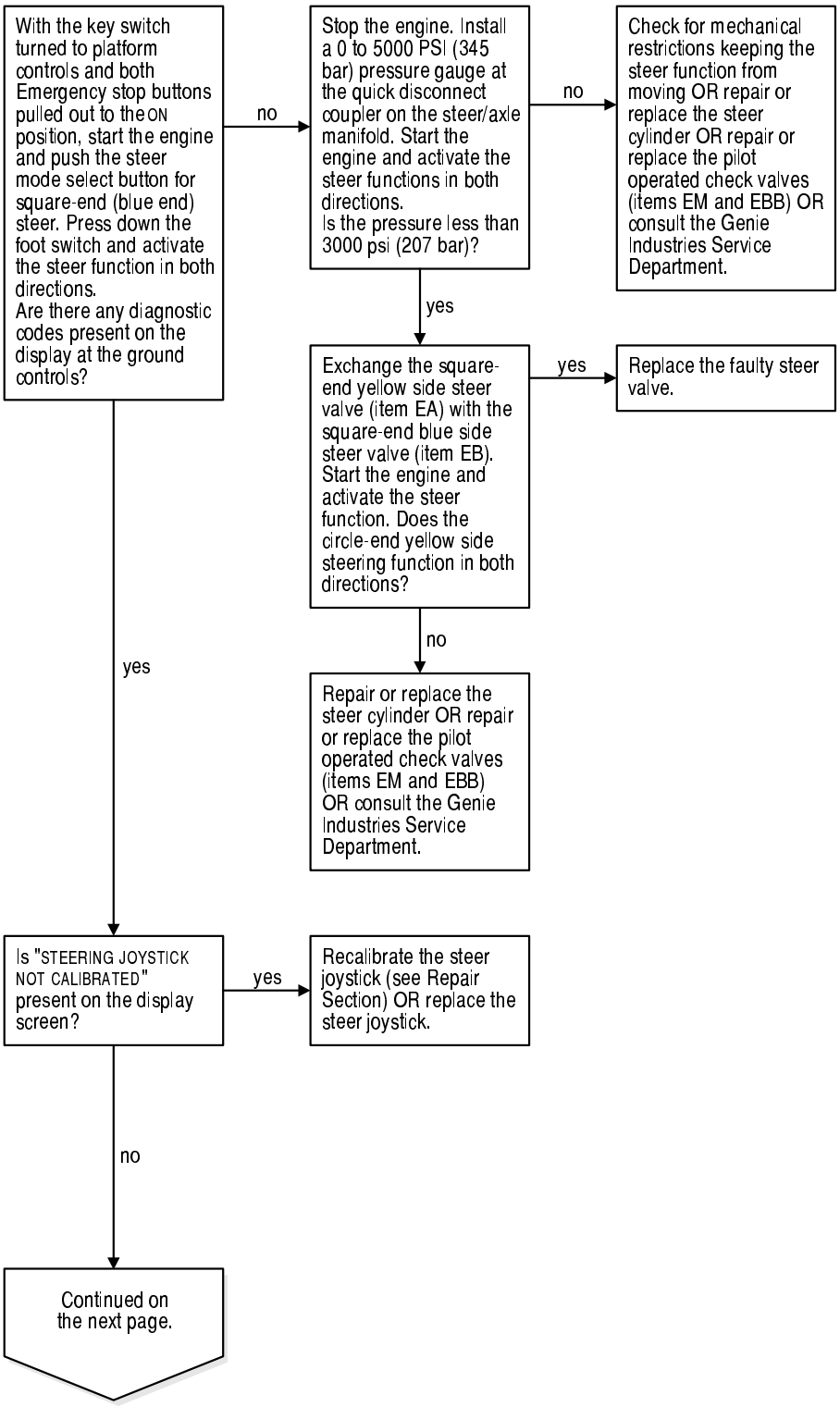

With the key switch turned to platform controls and both Emergency stop buttons pulled out to the ON position, start the engine and push the steer mode select button for square-end (blue end) steer. Press down the foot switch and activate the steer function in both directions.
Are there any diagnostic codes present on the display at the ground controls?
no
Stop the engine. Install a 0 to 5000 PSI (345 bar) pressure gauge at the quick disconnect coupler on the steer/axle manifold. Start the engine and activate the steer functions in both directions.
Is the pressure less than 3000 psi (207 bar)?
no
Check for mechanical restrictions keeping the steer function from moving OR repair or replace the steer cylinder OR repair or replace the pilot operated check valves (items EM and EBB) OR consult the Genie Industries Service Department.
yes
Exchange the square-end yellow side steer valve (item EA) with the square-end blue side steer valve (item EB). Start the engine and activate the steer function. Does the circle-end yellow side steering function in both directions?
yes
Replace the faulty steer valve.
no
Repair or replace the steer cylinder OR repair or replace the pilot operated check valves (items EM and EBB) OR consult the Genie Industries Service Department.
yes
Is "STEERING JOYSTICK NOT CALIBRATED" present on the display screen?
yes
Recalibrate the steer joystick (see Repair Section) OR replace the steer joystick.
no
Continued on the next page.

CHART 36

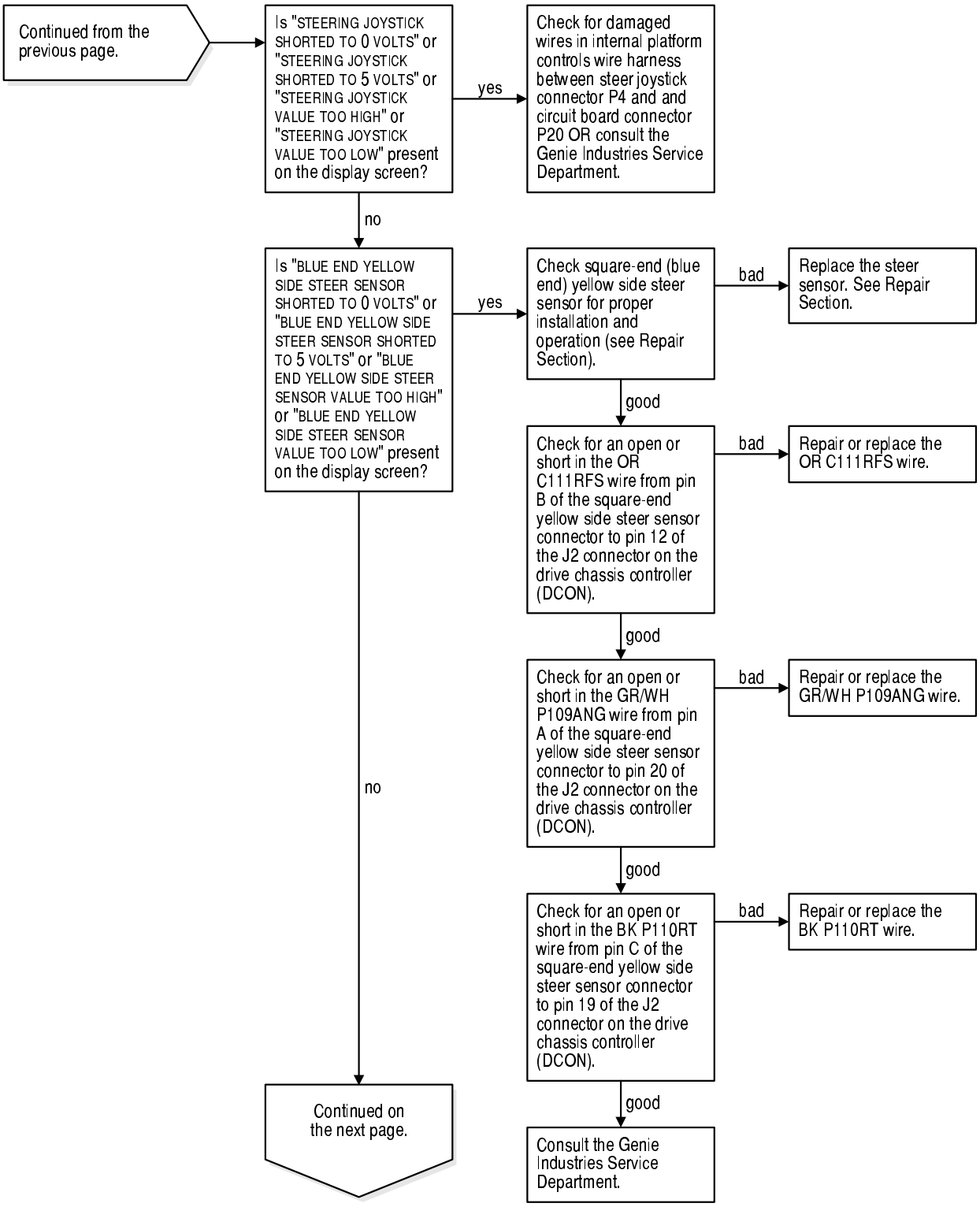

Continued from the previous page.
Is "STEERING JOYSTICK SHORTED TO 0 VOLTS" or "STEERING JOYSTICK SHORTED TO 5 VOLTS" or "STEERING JOYSTICK VALUE TOO HIGH" or "STEERING JOYSTICK VALUE TOO LOW" present on the display screen?
yes
Check for damaged wires in internal platform controls wire harness between steer joystick connector P4 and and circuit board connector P20 OR consult the Genie Industries Service Department.
no
Is "BLUE END YELLOW SIDE STEER SENSOR SHORTED TO 0 VOLTS" or "BLUE END YELLOW SIDE STEER SENSOR SHORTED TO 5 VOLTS" or "BLUE END YELLOW SIDE STEER SENSOR VALUE TOO HIGH" or "BLUE END YELLOW SIDE STEER SENSOR VALUE TOO LOW" present on the display screen?
yes
Check square-end (blue end) yellow side steer sensor for proper installation and operation (see Repair Section).
bad
Replace the steer sensor. See Repair Section.
good
Check for an open or short in the OR C111RFS wire from pin B of the square-end yellow side steer sensor connector to pin 12 of the J2 connector on the drive chassis controller (DCON).
bad
Repair or replace the OR C111RFS wire.
good
Check for an open or short in the GR/WH P109ANG wire from pin A of the square-end yellow side steer sensor connector to pin 20 of the J2 connector on the drive chassis controller (DCON).
bad
Repair or replace the GR/WH P109ANG wire.
good
Check for an open or short in the BK P110RT wire from pin C of the square-end yellow side steer sensor connector to pin 19 of the J2 connector on the drive chassis controller (DCON).
bad
Repair or replace the BK P110RT wire.
good
Consult the Genie Industries Service Department.
no
Continued on the next page.

CHART 36

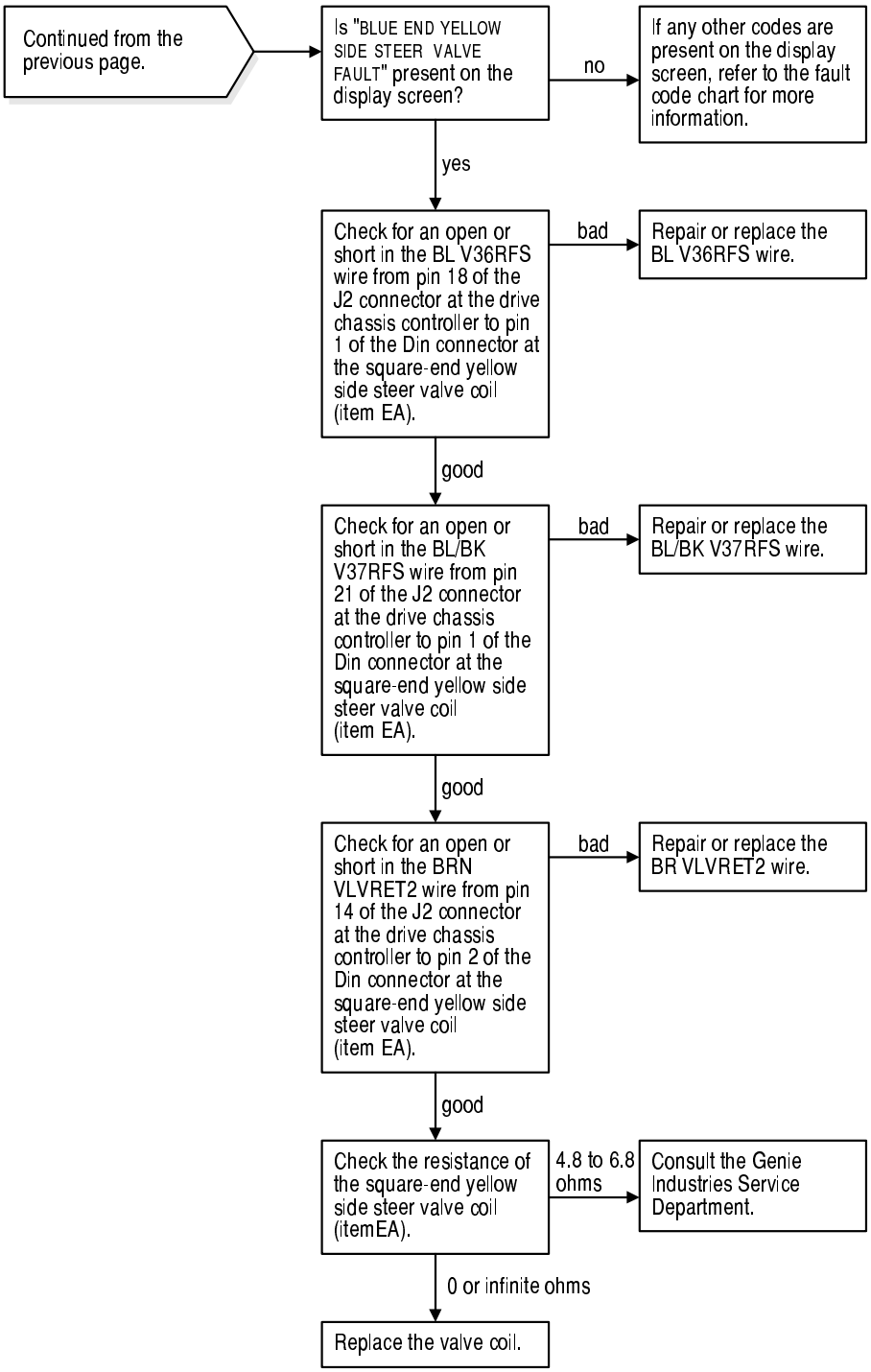

Continued from the previous page.
Is "BLUE END YELLOW SIDE STEER VALVE FAULT" present on the display screen?
no
If any other codes are present on the display screen, refer to the fault code chart for more information.
yes
Check for an open or short in the BL V36RFS wire from pin 18 of the J2 connector at the drive chassis controller to pin 1 of the Din connector at the square-end yellow side steer valve coil (item EA).
bad
Repair or replace the BL V36RFS wire.
good
Check for an open or short in the BL/BK V37RFS wire from pin 21 of the J2 connector at the drive chassis controller to pin 1 of the Din connector at the square-end yellow side steer valve coil (item EA).
bad
Repair or replace the BL/BK V37RFS wire.
good
Check for an open or short in the BRN VLVRET2 wire from pin 14 of the J2 connector at the drive chassis controller to pin 2 of the Din connector at the square-end yellow side steer valve coil (item EA).
bad
Repair or replace the BR VLVRET2 wire.
good
Check the resistance of the square-end yellow side steer valve coil (itemEA).
4.8 to 6.8 ohms
Consult the Genie Industries Service Department.
0 or infinite ohms
Replace the valve coil.

Chart 37

Yellow End Blue Side Steering Function Inoperative

Be sure all other functions operate normally.

Be sure the batteries are fully charged and properly connected.

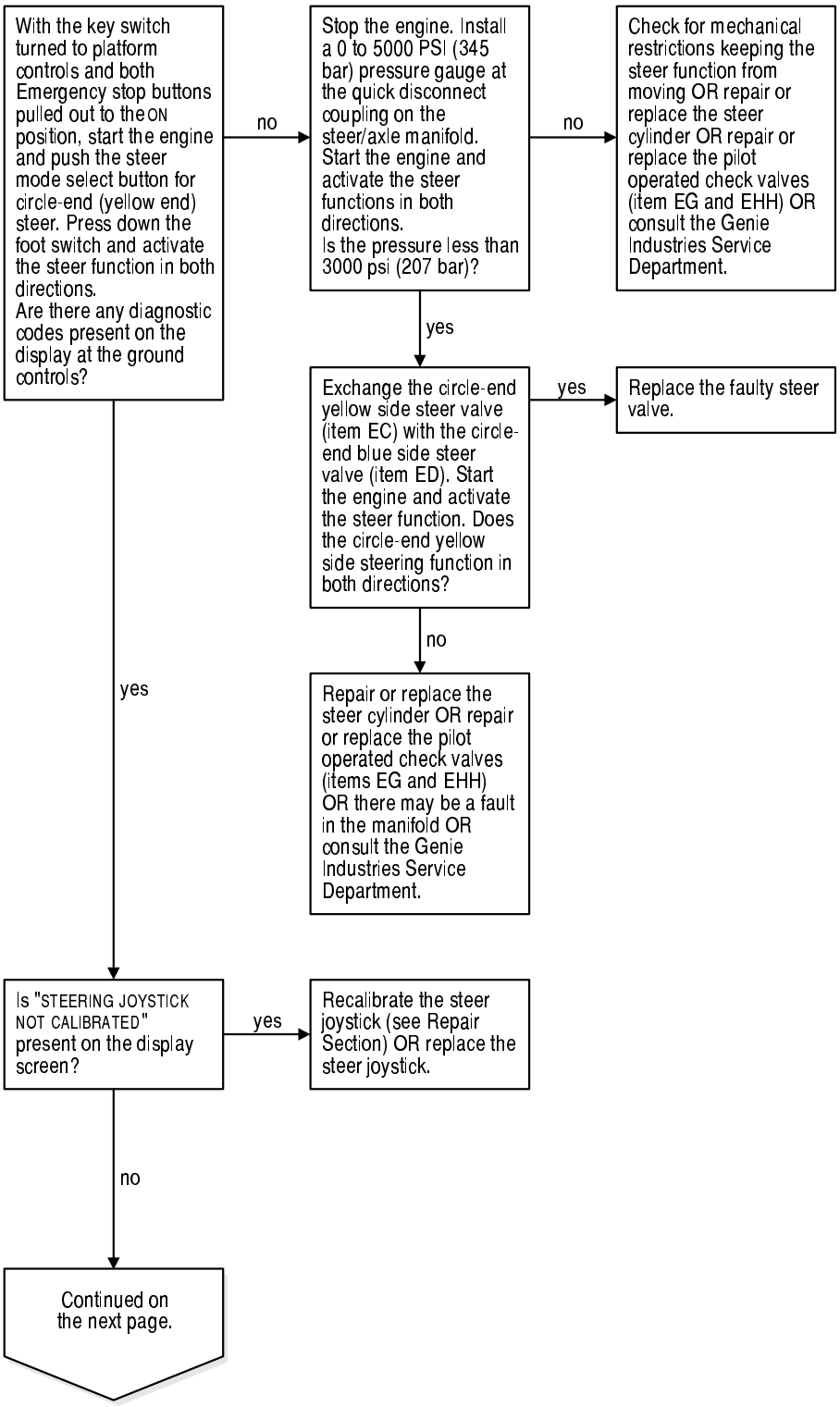

With the key switch turned to platform controls and both Emergency stop buttons pulled out to the ON position, start the engine and push the steer mode select button for circle-end (yellow end) steer. Press down the foot switch and activate the steer function in both directions.
Are there any diagnostic codes present on the display at the ground controls?
no
Stop the engine. Install a 0 to 5000 PSI (345 bar) pressure gauge at the quick disconnect coupling on the steer/axle manifold. Start the engine and activate the steer functions in both directions.
Is the pressure less than 3000 psi (207 bar)?
no
Check for mechanical restrictions keeping the steer function from moving OR repair or replace the steer cylinder OR repair or replace the pilot operated check valves (item EG and EHH) OR consult the Genie Industries Service Department.
yes
Exchange the circle-end yellow side steer valve (item EC) with the circle-end blue side steer valve (item ED). Start the engine and activate the steer function. Does the circle-end yellow side steering function in both directions?
yes
Replace the faulty steer valve.
no
Repair or replace the steer cylinder OR repair or replace the pilot operated check valves (items EG and EHH) OR there may be a fault in the manifold OR consult the Genie Industries Service Department.
yes
Is "STEERING JOYSTICK NOT CALIBRATED" present on the display screen?
yes
Recalibrate the steer joystick (see Repair Section) OR replace the steer joystick.
no
Continued on the next page.

CHART 37

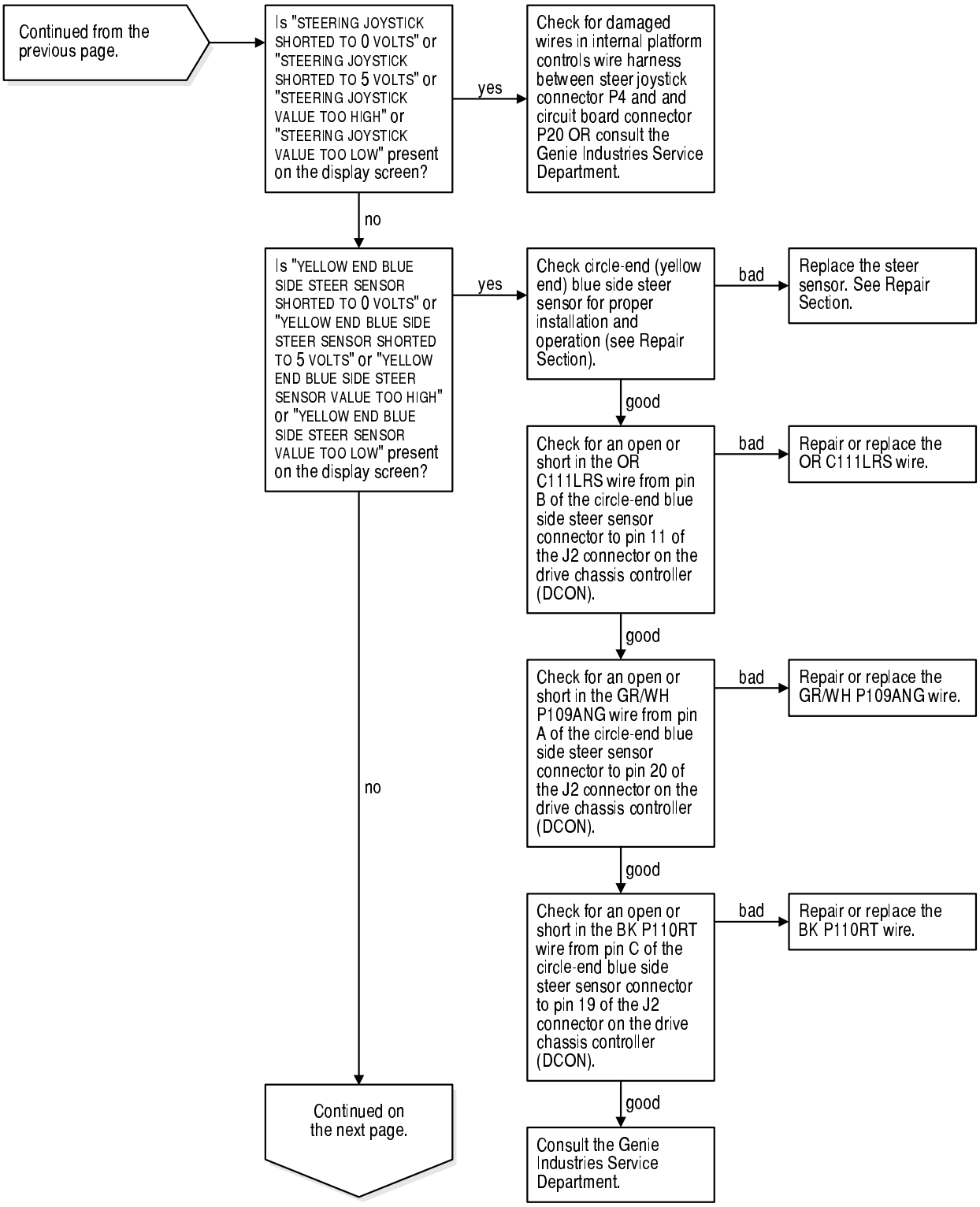

Continued from the previous page.
Is "STEERING JOYSTICK SHORTED TO 0 VOLTS" or "STEERING JOYSTICK SHORTED TO 5 VOLTS" or "STEERING JOYSTICK VALUE TOO HIGH" or "STEERING JOYSTICK VALUE TOO LOW" present on the display screen?
yes
Check for damaged wires in internal platform controls wire harness between steer joystick connector P4 and and circuit board connector P20 OR consult the Genie Industries Service Department.
no
Is "YELLOW END BLUE SIDE STEER SENSOR SHORTED TO 0 VOLTS" or "YELLOW END BLUE SIDE STEER SENSOR SHORTED TO 5 VOLTS" or "YELLOW END BLUE SIDE STEER SENSOR VALUE TOO HIGH" or "YELLOW END BLUE SIDE STEER SENSOR VALUE TOO LOW" present on the display screen?
yes
Check circle-end (yellow end) blue side steer sensor for proper installation and operation (see Repair Section).
bad
Replace the steer sensor. See Repair Section.
good
Check for an open or short in the OR C111LRS wire from pin B of the circle-end blue side steer sensor connector to pin 11 of the J2 connector on the drive chassis controller (DCON).
bad
Repair or replace the OR C111LRS wire.
good
Check for an open or short in the GR/WH P109ANG wire from pin A of the circle-end blue side steer sensor connector to pin 20 of the J2 connector on the drive chassis controller (DCON).
bad
Repair or replace the GR/WH P109ANG wire.
good
Check for an open or short in the BK P110RT wire from pin C of the circle-end blue side steer sensor connector to pin 19 of the J2 connector on the drive chassis controller (DCON).
bad
Repair or replace the BK P110RT wire.
good
Consult the Genie Industries Service Department.
no
Continued on the next page.

CHART 37

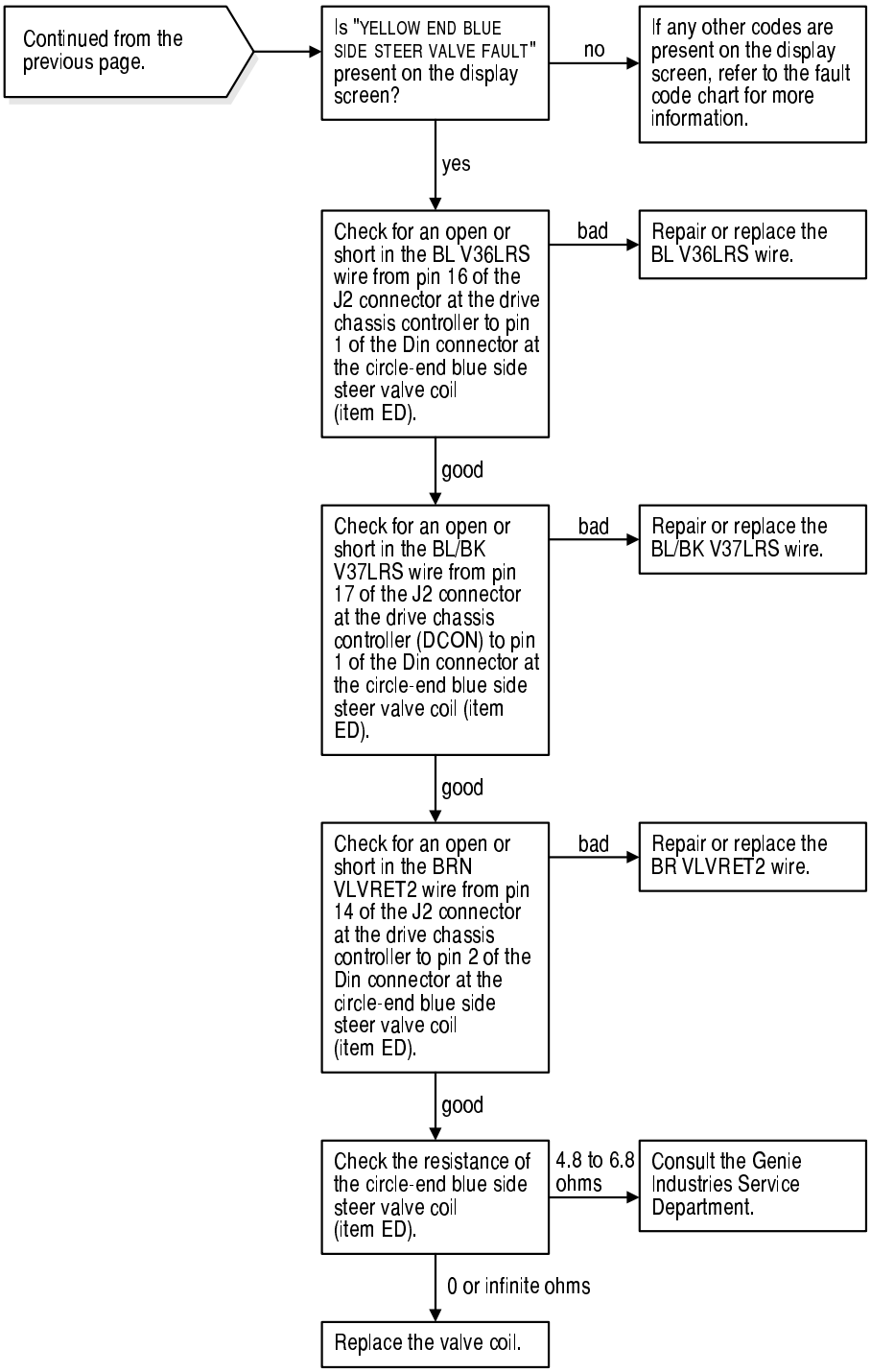

Continued from the previous page.
Is "YELLOW END BLUE SIDE STEER VALVE FAULT" present on the display screen?
no
If any other codes are present on the display screen, refer to the fault code chart for more information.
yes
Check for an open or short in the BL V36LRS wire from pin 16 of the J2 connector at the drive chassis controller to pin 1 of the Din connector at the circle-end blue side steer valve coil (item ED).
bad
Repair or replace the BL V36LRS wire.
good
Check for an open or short in the BL/BK V37LRS wire from pin 17 of the J2 connector at the drive chassis controller (DCON) to pin 1 of the Din connector at the circle-end blue side steer valve coil (item ED).
bad
Repair or replace the BL/BK V37LRS wire.
good
Check for an open or short in the BRN VLVRET2 wire from pin 14 of the J2 connector at the drive chassis controller to pin 2 of the Din connector at the circle-end blue side steer valve coil (item ED).
bad
Repair or replace the BR VLVRET2 wire.
good
Check the resistance of the circle-end blue side steer valve coil (item ED).
4.8 to 6.8 ohms
Consult the Genie Industries Service Department.
0 or infinite ohms
Replace the valve coil.

Chart 38

Yellow End Yellow Side Steering Function Inoperative

Be sure all other functions operate normally.

Be sure the batteries are fully charged and properly connected.

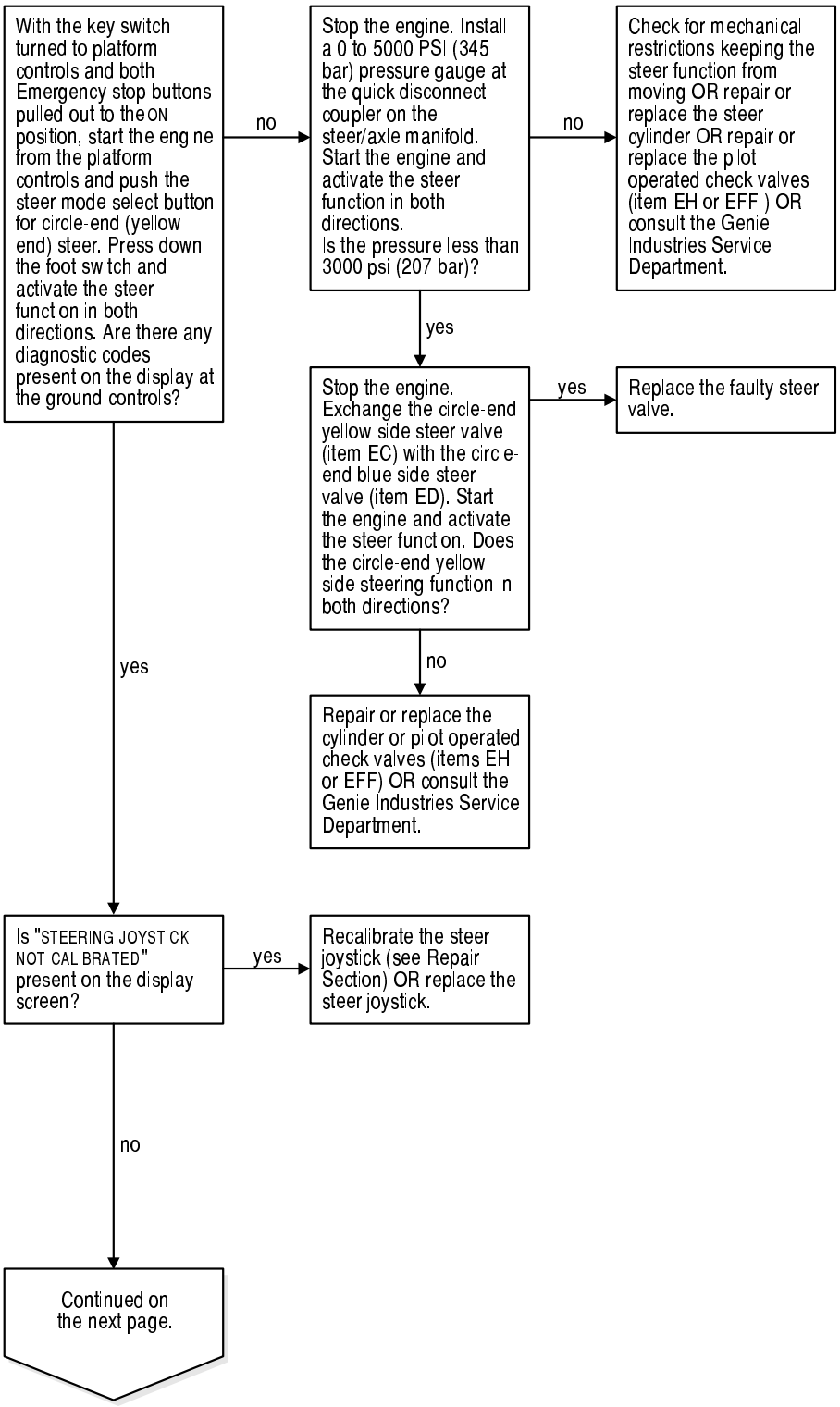

With the key switch turned to platform controls and both Emergency stop buttons pulled out to the ON position, start the engine from the platform controls and push the steer mode select button for circle-end (yellow end) steer. Press down the foot switch and activate the steer function in both directions. Are there any diagnostic codes present on the display at the ground controls?
no
Stop the engine. Install a 0 to 5000 PSI (345 bar) pressure gauge at the quick disconnect coupler on the steer/axle manifold. Start the engine and activate the steer function in both directions. Is the pressure less than 3000 psi (207 bar)?
no
Check for mechanical restrictions keeping the steer function from moving OR repair or replace the steer cylinder OR repair or replace the pilot operated check valves (item EH or EFF) OR consult the Genie Industries Service Department.
yes
Stop the engine. Exchange the circle-end yellow side steer valve (item EC) with the circle-end blue side steer valve (item ED). Start the engine and activate the steer function. Does the circle-end yellow side steering function in both directions?
yes
Replace the faulty steer valve.
no
Repair or replace the cylinder or pilot operated check valves (items EH or EFF) OR consult the Genie Industries Service Department.
yes
Is "STEERING JOYSTICK NOT CALIBRATED" present on the display screen?
yes
Recalibrate the steer joystick (see Repair Section) OR replace the steer joystick.
no
Continued on the next page.

CHART 38

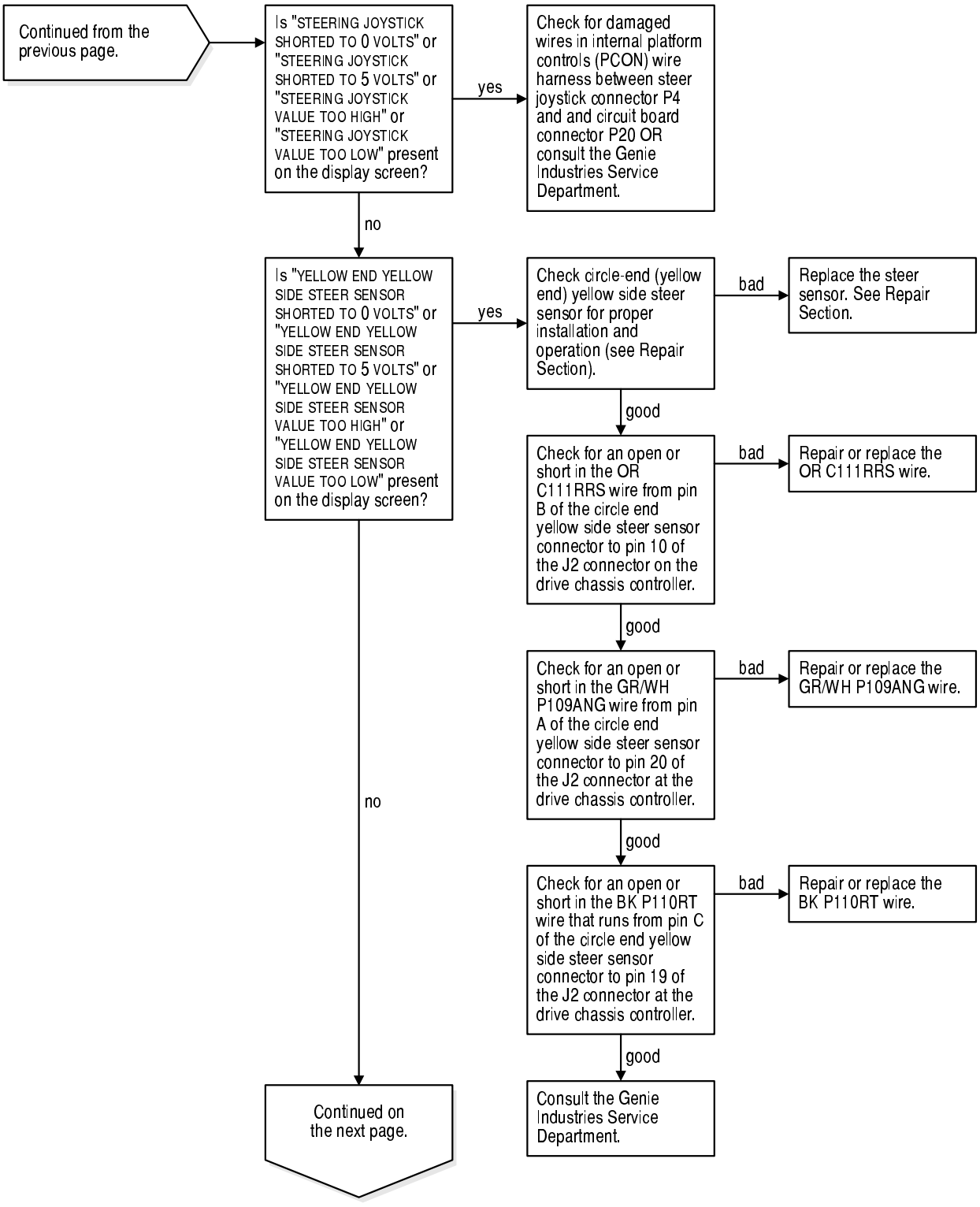

Continued from the previous page.
Is "STEERING JOYSTICK SHORTED TO 0 VOLTS" or "STEERING JOYSTICK SHORTED TO 5 VOLTS" or "STEERING JOYSTICK VALUE TOO HIGH" or "STEERING JOYSTICK VALUE TOO LOW" present on the display screen?
yes
Check for damaged wires in internal platform controls (PCON) wire harness between steer joystick connector P4 and and circuit board connector P20 OR consult the Genie Industries Service Department.
no
Is "YELLOW END YELLOW SIDE STEER SENSOR SHORTED TO 0 VOLTS" or "YELLOW END YELLOW SIDE STEER SENSOR SHORTED TO 5 VOLTS" or "YELLOW END YELLOW SIDE STEER SENSOR VALUE TOO HIGH" or "YELLOW END YELLOW SIDE STEER SENSOR VALUE TOO LOW" present on the display screen?
yes
Check circle-end (yellow end) yellow side steer sensor for proper installation and operation (see Repair Section).
bad
Replace the steer sensor. See Repair Section.
good
Check for an open or short in the OR C111RRS wire from pin B of the circle end yellow side steer sensor connector to pin 10 of the J2 connector on the drive chassis controller.
bad
Repair or replace the OR C111RRS wire.
good
Check for an open or short in the GR/WH P109ANG wire from pin A of the circle end yellow side steer sensor connector to pin 20 of the J2 connector at the drive chassis controller.
bad
Repair or replace the GR/WH P109ANG wire.
good
Check for an open or short in the BK P110RT wire that runs from pin C of the circle end yellow side steer sensor connector to pin 19 of the J2 connector at the drive chassis controller.
bad
Repair or replace the BK P110RT wire.
good
Consult the Genie Industries Service Department.
no
Continued on the next page.

CHART 38

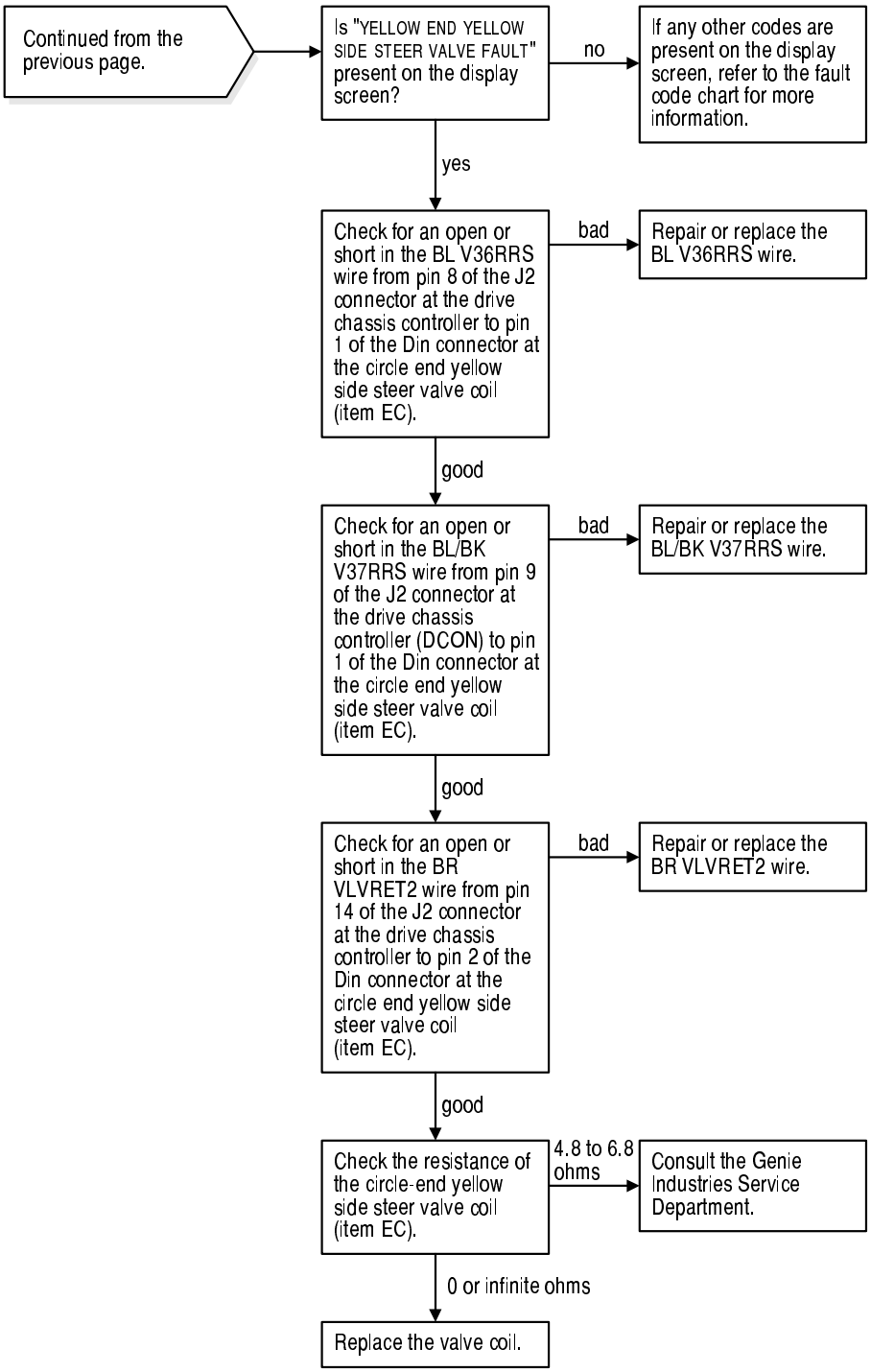

Continued from the previous page.
Is "YELLOW END YELLOW SIDE STEER VALVE FAULT" present on the display screen?
no
If any other codes are present on the display screen, refer to the fault code chart for more information.
yes
Check for an open or short in the BL V36RRS wire from pin 8 of the J2 connector at the drive chassis controller to pin 1 of the Din connector at the circle end yellow side steer valve coil (item EC).
bad
Repair or replace the BL V36RRS wire.
good
Check for an open or short in the BL/BK V37RRS wire from pin 9 of the J2 connector at the drive chassis controller (DCON) to pin 1 of the Din connector at the circle end yellow side steer valve coil (item EC).
bad
Repair or replace the BL/BK V37RRS wire.
good
Check for an open or short in the BR VLVRET2 wire from pin 14 of the J2 connector at the drive chassis controller to pin 2 of the Din connector at the circle end yellow side steer valve coil (item EC).
bad
Repair or replace the BR VLVRET2 wire.
good
Check the resistance of the circle-end yellow side steer valve coil (item EC).
4.8 to 6.8 ohms
Consult the Genie Industries Service Department.
0 or infinite ohms
Replace the valve coil.

Chart 39

Drive Forward Function Inoperative

Be sure all other functions operate normally.

Be sure the engine is running.

Be sure the drive hubs are not in the free wheel configuration.

Be sure the batteries are fully charged and properly connected.

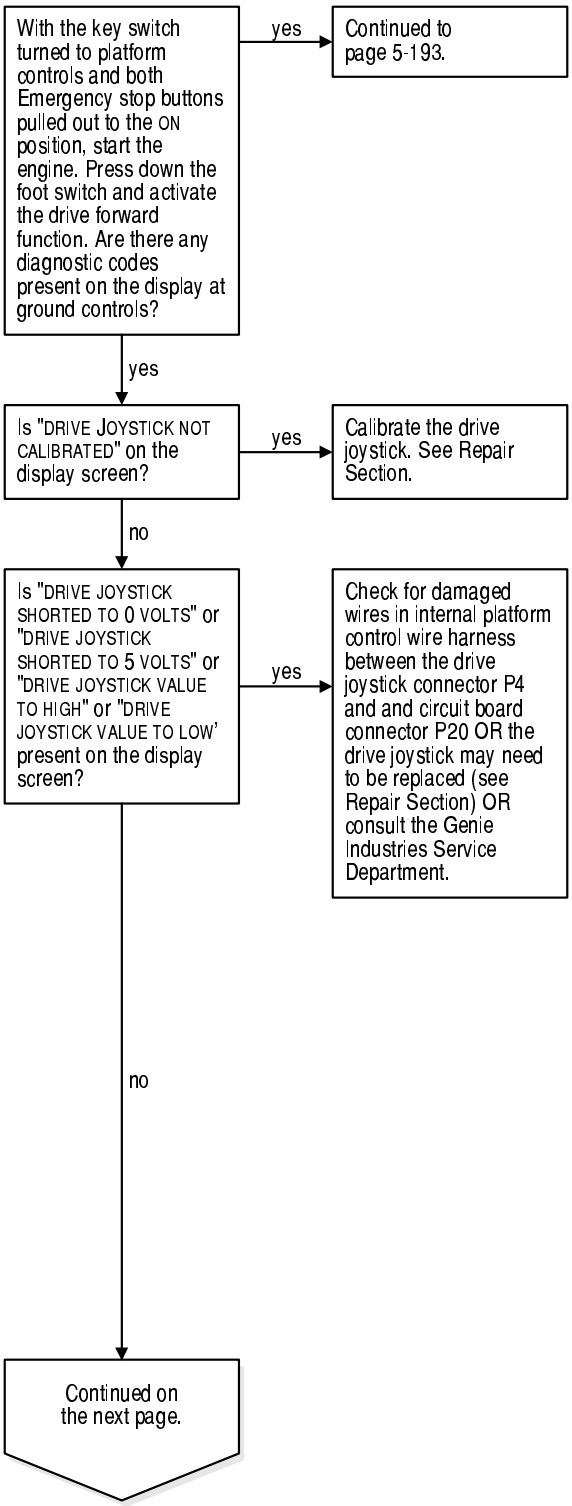

With the key switch turned to platform controls and both Emergency stop buttons pulled out to the ON position, start the engine. Press down the foot switch and activate the drive forward function. Are there any diagnostic codes present on the display at ground controls?
yes
Continued to page 5-193.
yes
Is "DRIVE JOYSTICK NOT CALIBRATED" on the display screen?
yes
Calibrate the drive joystick. See Repair Section.
no
Is "DRIVE JOYSTICK SHORTED TO 0 VOLTS" or "DRIVE JOYSTICK SHORTED TO 5 VOLTS" or "DRIVE JOYSTICK VALUE TO HIGH" or "DRIVE JOYSTICK VALUE TO LOW' present on the display screen?
yes
Check for damaged wires in internal platform control wire harness between the drive joystick connector P4 and and circuit board connector P20 OR the drive joystick may need to be replaced (see Repair Section) OR consult the Genie Industries Service Department.
no
Continued on the next page.

CHART 39

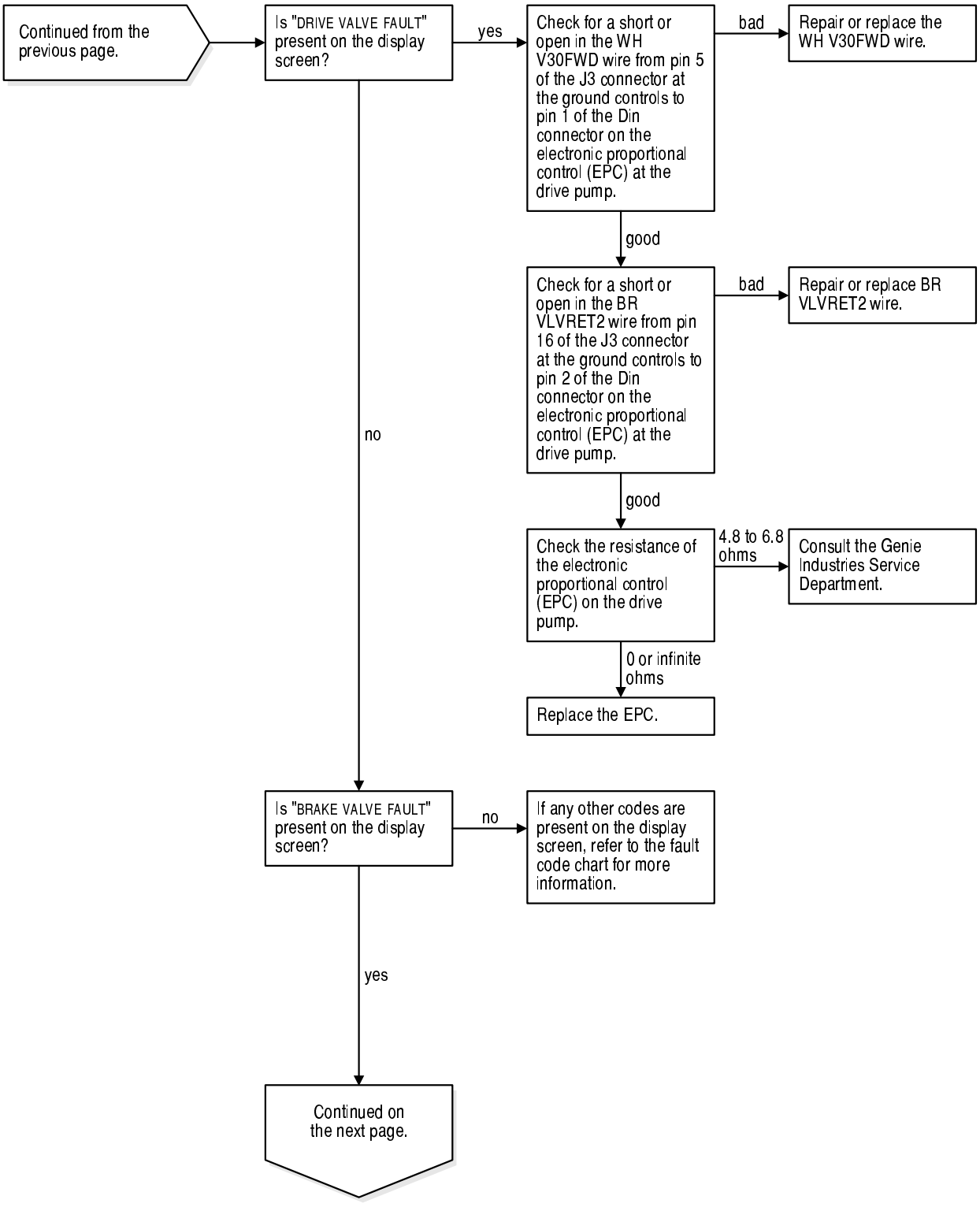

Continued from the previous page.
Is "DRIVE VALVE FAULT" present on the display screen?
yes
Check for a short or open in the WH V30FWD wire from pin 5 of the J3 connector at the ground controls to pin 1 of the Din connector on the electronic proportional control (EPC) at the drive pump.
bad
Repair or replace the WH V30FWD wire.
good
Check for a short or open in the BR VLVRET2 wire from pin 16 of the J3 connector at the ground controls to pin 2 of the Din connector on the electronic proportional control (EPC) at the drive pump.
bad
Repair or replace BR VLVRET2 wire.
good
Check the resistance of the electronic proportional control (EPC) on the drive pump.
4.8 to 6.8 ohms
Consult the Genie Industries Service Department.
0 or infinite ohms
Replace the EPC.
no
Is "BRAKE VALVE FAULT" present on the display screen?
no
If any other codes are present on the display screen, refer to the fault code chart for more information.
yes
Continued on the next page.

CHART 39

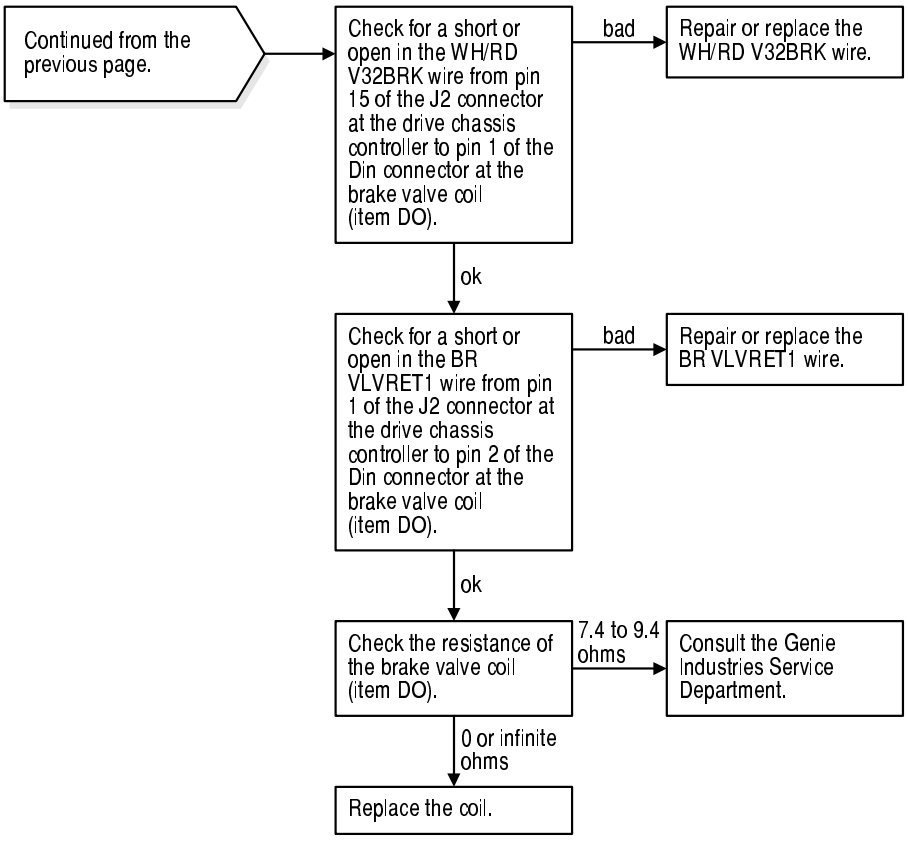

Continued from the previous page.
Check for a short or open in the WH/RD V32BRK wire from pin 15 of the J2 connector at the drive chassis controller to pin 1 of the Din connector at the brake valve coil (item DO).
bad
Repair or replace the WH/RD V32BRK wire.
ok
Check for a short or open in the BR VLVRET1 wire from pin 1 of the J2 connector at the drive chassis controller to pin 2 of the Din connector at the brake valve coil (item DO).
bad
Repair or replace the BR VLVRET1 wire.
ok
Check the resistance of the brake valve coil (item DO).
7.4 to 9.4 ohms
Consult the Genie Industries Service Department.
0 or infinite ohms
Replace the coil.

CHART 39

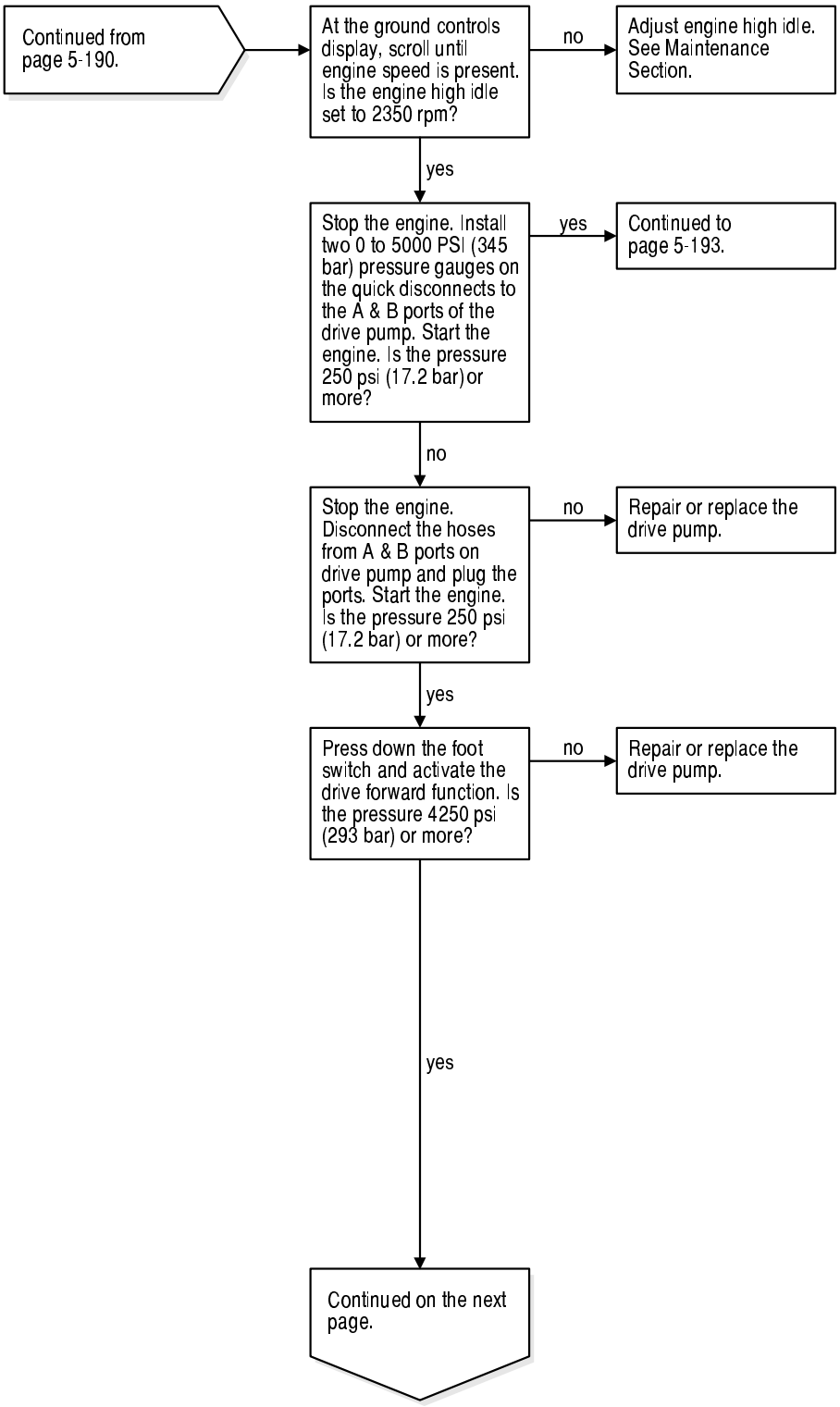

Continued from page 5-190.
At the ground controls display, scroll until engine speed is present. Is the engine high idle set to 2350 rpm?
no
Adjust engine high idle. See Maintenance Section.
yes
Stop the engine. Install two 0 to 5000 PSI (345 bar) pressure gauges on the quick disconnects to the A & B ports of the drive pump. Start the engine. Is the pressure 250 psi (17.2 bar) or more?
yes
Continued to page 5-193.
no
Stop the engine. Disconnect the hoses from A & B ports on drive pump and plug the ports. Start the engine. Is the pressure 250 psi (17.2 bar) or more?
no
Repair or replace the drive pump.
yes
Press down the foot switch and activate the drive forward function. Is the pressure 4250 psi (293 bar) or more?
no
Repair or replace the drive pump.
yes
Continued on the next page.

CHART 39

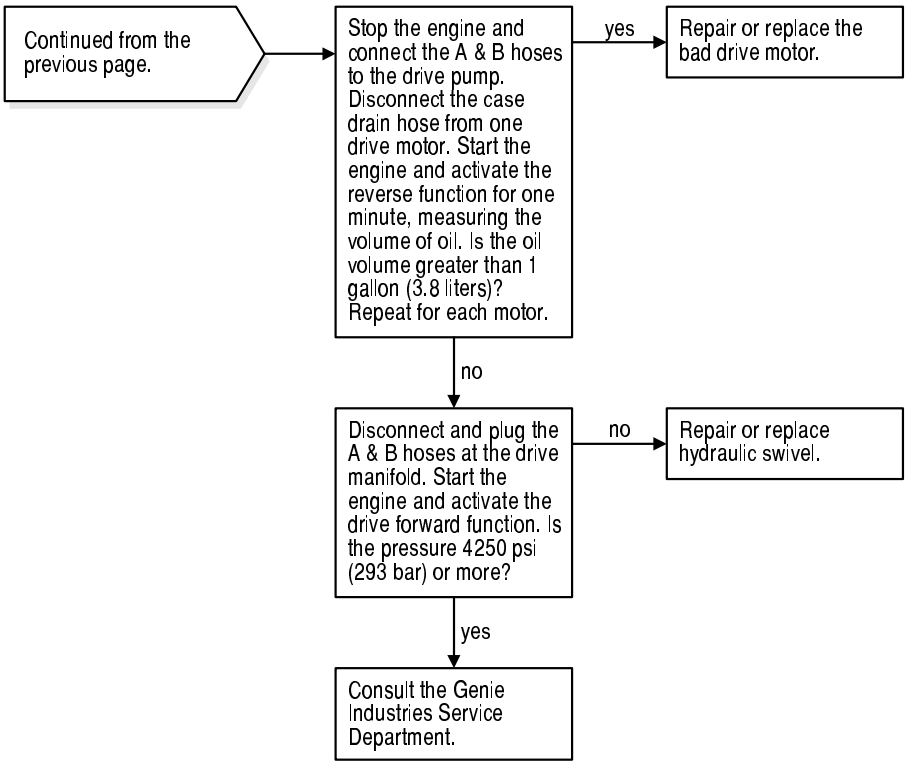

Continued from the previous page.
Stop the engine and connect the A & B hoses to the drive pump. Disconnect the case drain hose from one drive motor. Start the engine and activate the reverse function for one minute, measuring the volume of oil. Is the oil volume greater than 1 gallon (3.8 liters)? Repeat for each motor.
yes
Repair or replace the bad drive motor.
no
Disconnect and plug the A & B hoses at the drive manifold. Start the engine and activate the drive forward function. Is the pressure 4250 psi (293 bar) or more?
no
Repair or replace hydraulic swivel.
yes
Consult the Genie Industries Service Department.

CHART 39

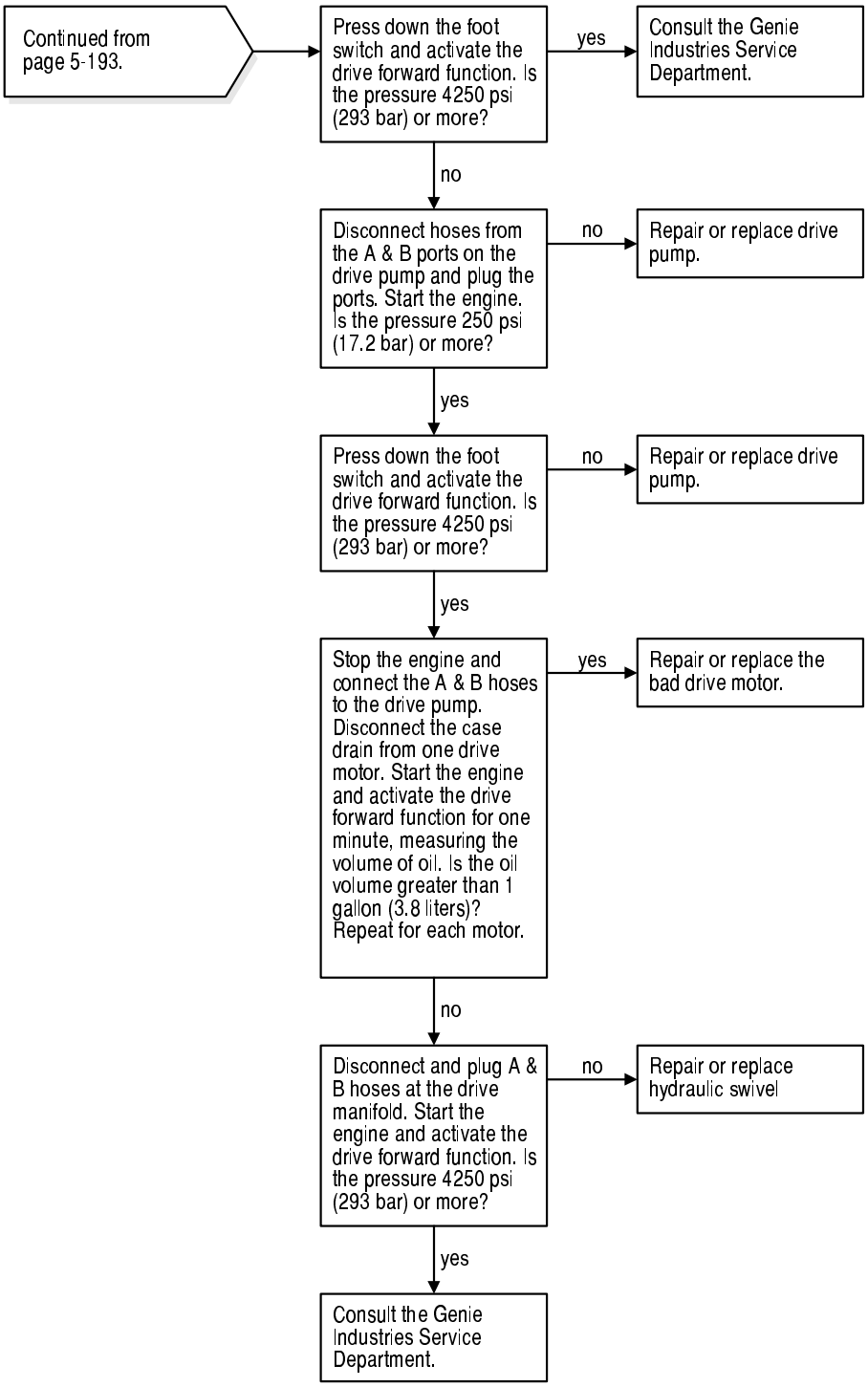

Continued from page 5-193.
Press down the foot switch and activate the drive forward function. Is the pressure 4250 psi (293 bar) or more?
yes
Consult the Genie Industries Service Department.
no
Disconnect hoses from the A & B ports on the drive pump and plug the ports. Start the engine. Is the pressure 250 psi (17.2 bar) or more?
no
Repair or replace drive pump.
yes
Press down the foot switch and activate the drive forward function. Is the pressure 4250 psi (293 bar) or more?
no
Repair or replace drive pump.
yes
Stop the engine and connect the A & B hoses to the drive pump. Disconnect the case drain from one drive motor. Start the engine and activate the drive forward function for one minute, measuring the volume of oil. Is the oil volume greater than 1 gallon (3.8 liters)? Repeat for each motor.
yes
Repair or replace the bad drive motor.
no
Disconnect and plug A & B hoses at the drive manifold. Start the engine and activate the drive forward function. Is the pressure 4250 psi (293 bar) or more?
no
Repair or replace hydraulic swivel
yes
Consult the Genie Industries Service Department.

Chart 40

Drive Reverse Function Inoperative

Be sure all other functions operate normally.

Be sure the engine is running.

Be sure the drive hubs are not in the free wheel configuration.

Be sure the batteries are fully charged and properly connected.

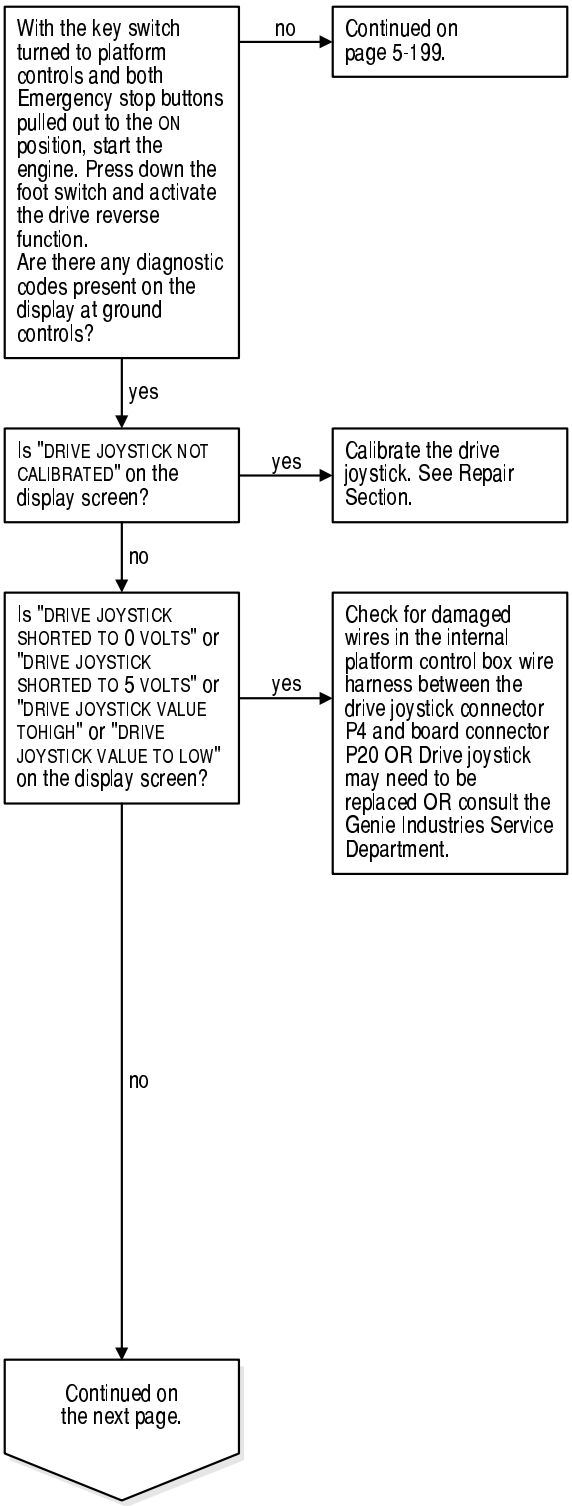

With the key switch turned to platform controls and both Emergency stop buttons pulled out to the ON position, start the engine. Press down the foot switch and activate the drive reverse function.
Are there any diagnostic codes present on the display at ground controls?
no
Continued on page 5-199.
yes
Is "DRIVE JOYSTICK NOT CALIBRATED" on the display screen?
yes
Calibrate the drive joystick. See Repair Section.
no
Is "DRIVE JOYSTICK SHORTED TO 0 VOLTS" or "DRIVE JOYSTICK SHORTED TO 5 VOLTS" or "DRIVE JOYSTICK VALUE TOHIGH" or "DRIVE JOYSTICK VALUE TO LOW" on the display screen?
yes
Check for damaged wires in the internal platform control box wire harness between the drive joystick connector P4 and board connector P20 OR Drive joystick may need to be replaced OR consult the Genie Industries Service Department.
no
Continued on the next page.

CHART 40

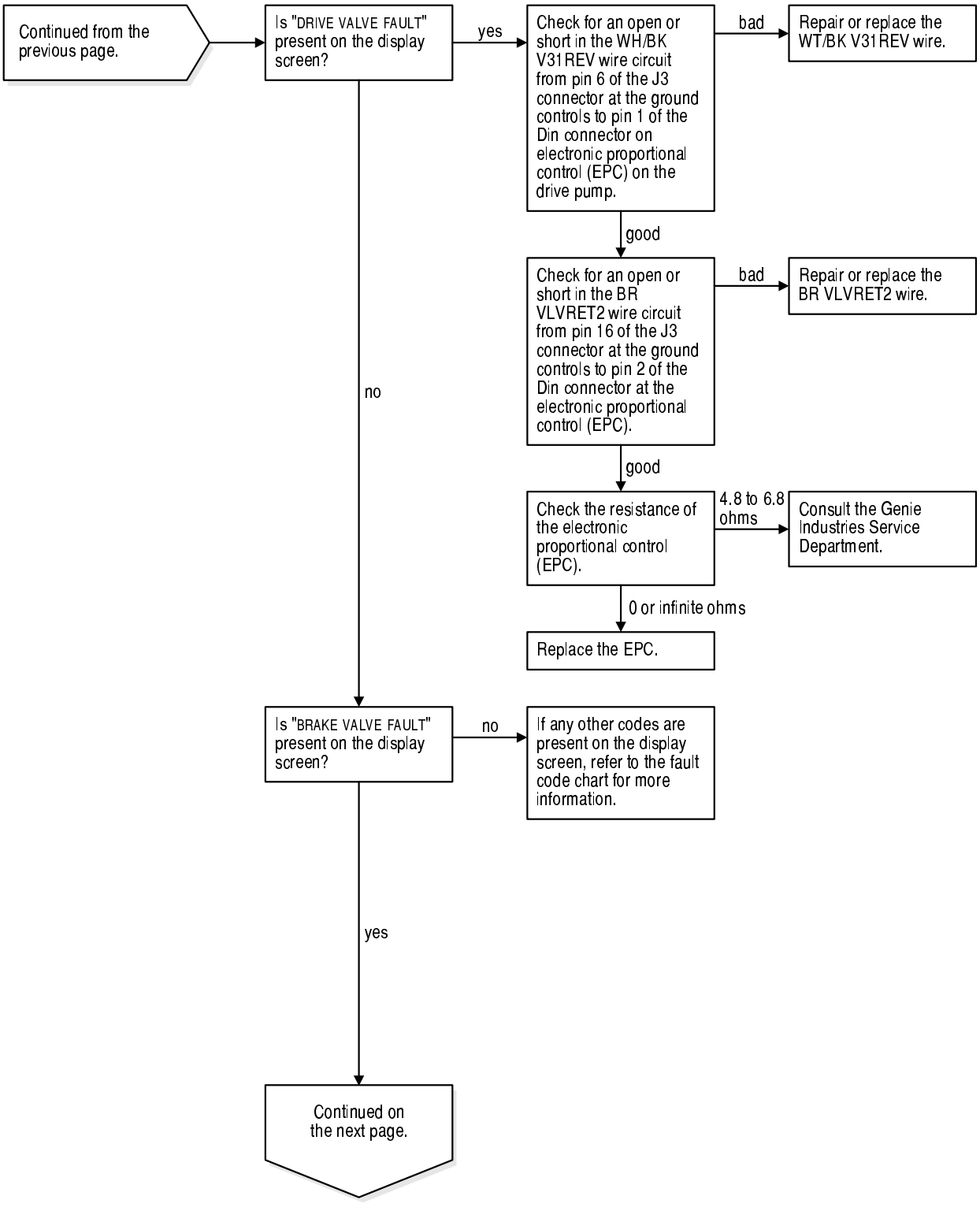

Continued from the previous page.
Is "DRIVE VALVE FAULT" present on the display screen?
yes
Check for an open or short in the WH/BK V31REV wire circuit from pin 6 of the J3 connector at the ground controls to pin 1 of the Din connector on electronic proportional control (EPC) on the drive pump.
bad
Repair or replace the WT/BK V31REV wire.
good
Check for an open or short in the BR VLVRET2 wire circuit from pin 16 of the J3 connector at the ground controls to pin 2 of the Din connector at the electronic proportional control (EPC).
bad
Repair or replace the BR VLVRET2 wire.
good
Check the resistance of the electronic proportional control (EPC).
4.8 to 6.8 ohms
Consult the Genie Industries Service Department.
0 or infinite ohms
Replace the EPC.
no
Is "BRAKE VALVE FAULT" present on the display screen?
no
If any other codes are present on the display screen, refer to the fault code chart for more information.
yes
Continued on the next page.

CHART 40

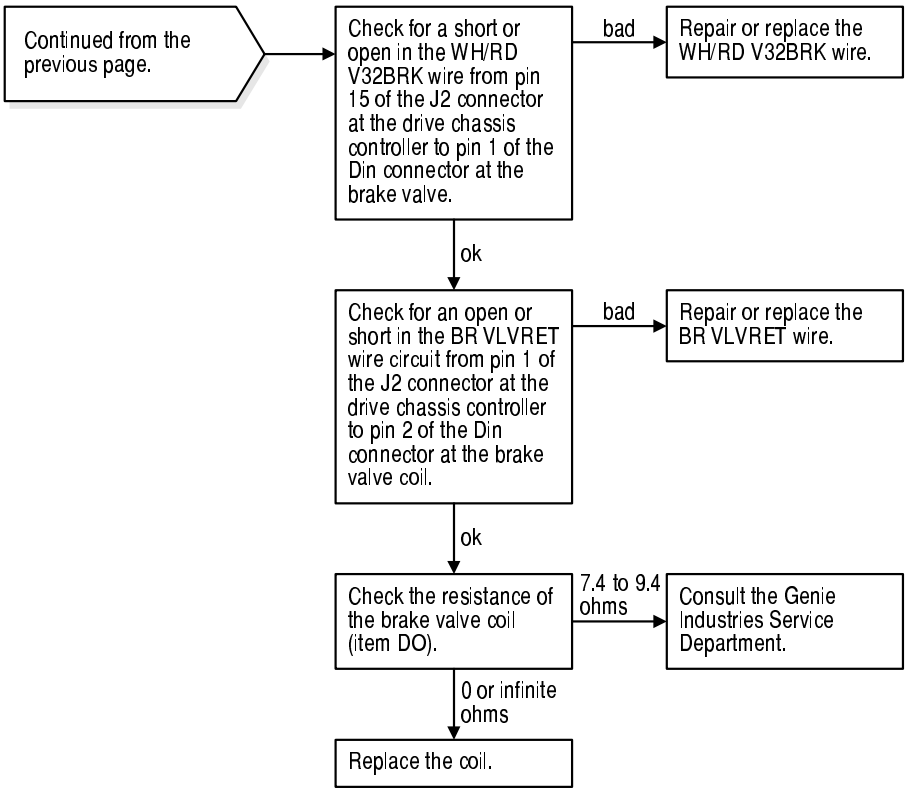

Continued from the previous page.
Check for a short or open in the WH/RD V32BRK wire from pin 15 of the J2 connector at the drive chassis controller to pin 1 of the Din connector at the brake valve.
bad
Repair or replace the WH/RD V32BRK wire.
ok
Check for an open or short in the BR VLVRET wire circuit from pin 1 of the J2 connector at the drive chassis controller to pin 2 of the Din connector at the brake valve coil.
bad
Repair or replace the BR VLVRET wire.
ok
Check the resistance of the brake valve coil (item DO).
7.4 to 9.4 ohms
Consult the Genie Industries Service Department.
0 or infinite ohms
Replace the coil.

CHART 40

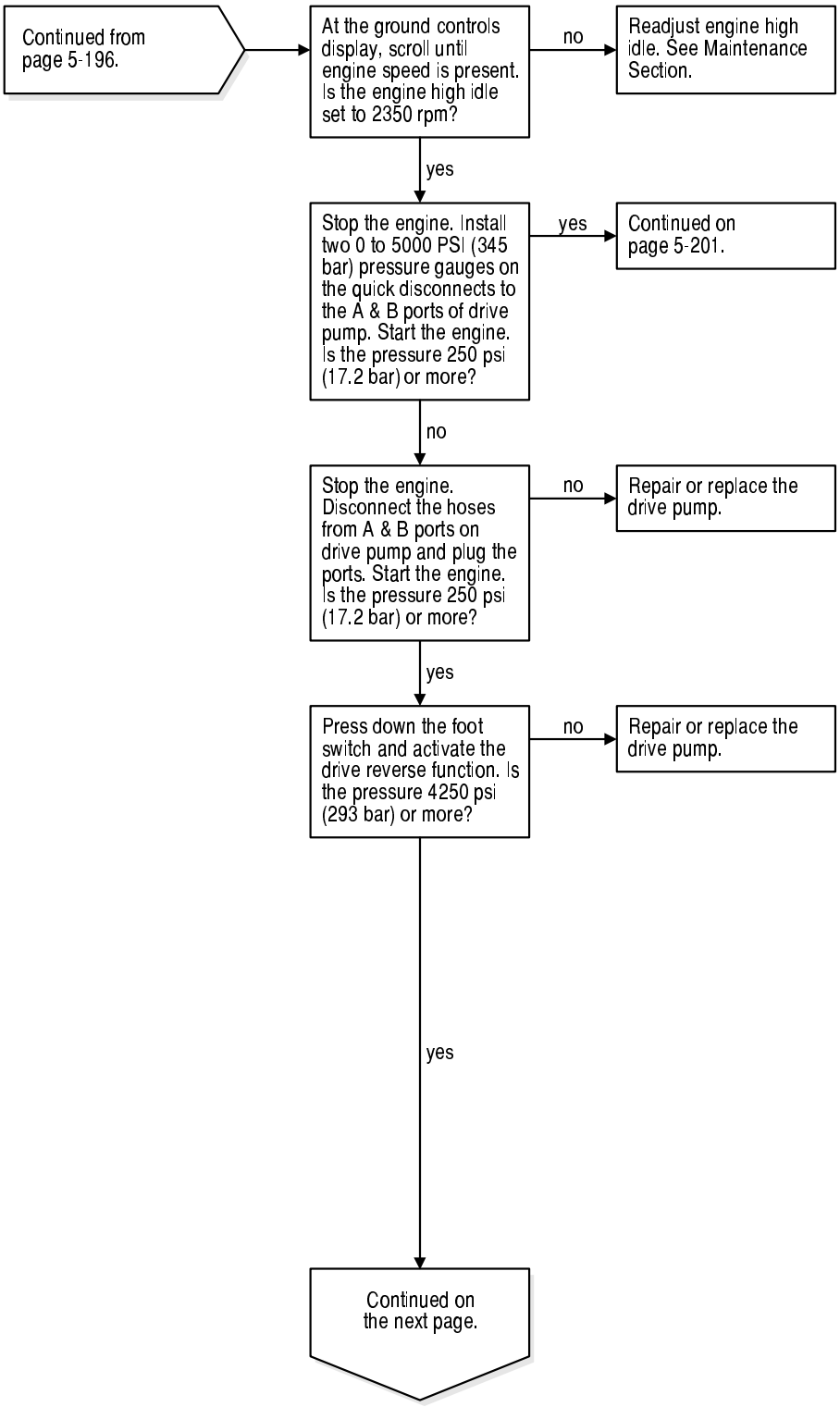

Continued from page 5-196.
At the ground controls display, scroll until engine speed is present. Is the engine high idle set to 2350 rpm?
no
Readjust engine high idle. See Maintenance Section.
yes
Stop the engine. Install two 0 to 5000 PSI (345 bar) pressure gauges on the quick disconnects to the A & B ports of drive pump. Start the engine. Is the pressure 250 psi (17.2 bar) or more?
yes
Continued on page 5-201.
no
Stop the engine. Disconnect the hoses from A & B ports on drive pump and plug the ports. Start the engine. Is the pressure 250 psi (17.2 bar) or more?
no
Repair or replace the drive pump.
yes
Press down the foot switch and activate the drive reverse function. Is the pressure 4250 psi (293 bar) or more?
no
Repair or replace the drive pump.
yes
Continued on the next page.

CHART 40

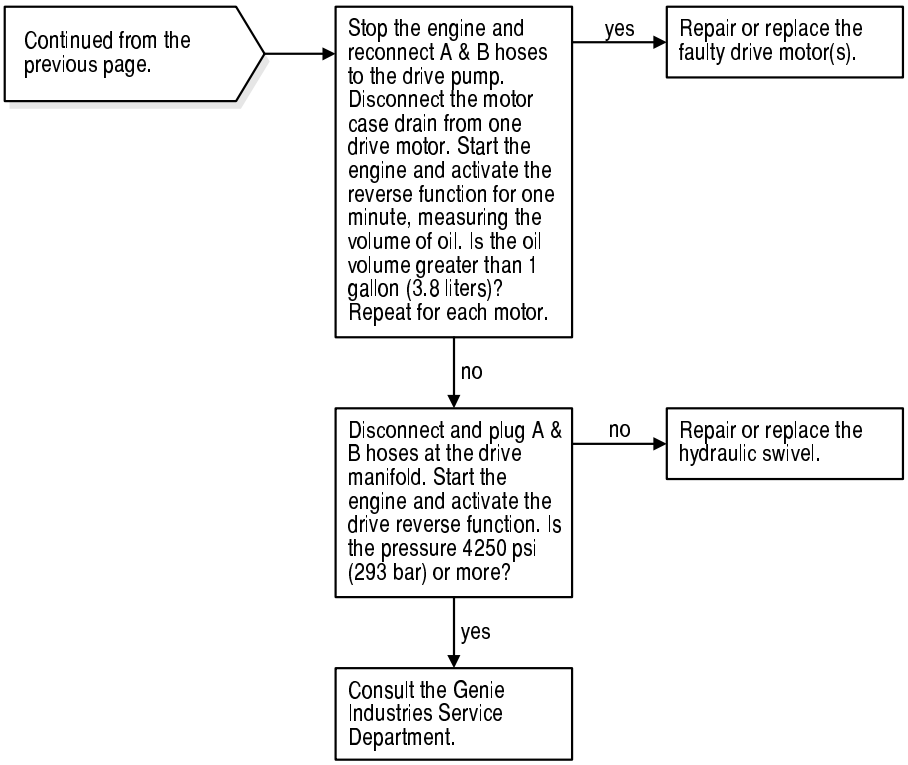

Continued from the previous page.
Stop the engine and reconnect A & B hoses to the drive pump. Disconnect the motor case drain from one drive motor. Start the engine and activate the reverse function for one minute, measuring the volume of oil. Is the oil volume greater than 1 gallon (3.8 liters)? Repeat for each motor.
yes
Repair or replace the faulty drive motor(s).
no
Disconnect and plug A & B hoses at the drive manifold. Start the engine and activate the drive reverse function. Is the pressure 4250 psi (293 bar) or more?
no
Repair or replace the hydraulic swivel.
yes
Consult the Genie Industries Service Department.

CHART 40

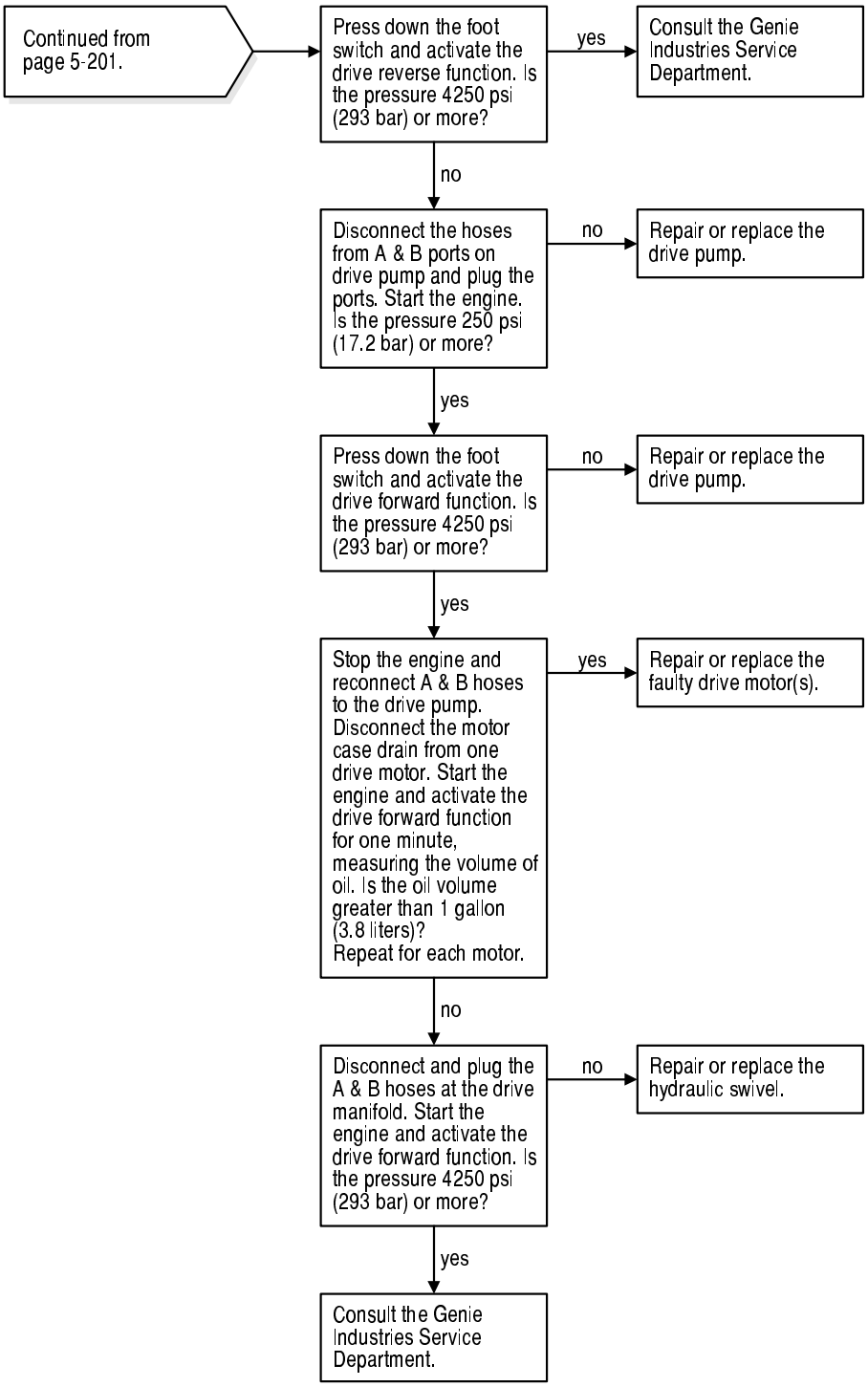

Continued from page 5-201.
Press down the foot switch and activate the drive reverse function. Is the pressure 4250 psi (293 bar) or more?
yes
Consult the Genie Industries Service Department.
no
Disconnect the hoses from A & B ports on drive pump and plug the ports. Start the engine. Is the pressure 250 psi (17.2 bar) or more?
no
Repair or replace the drive pump.
yes
Press down the foot switch and activate the drive forward function. Is the pressure 4250 psi (293 bar) or more?
no
Repair or replace the drive pump.
yes
Stop the engine and reconnect A & B hoses to the drive pump. Disconnect the motor case drain from one drive motor. Start the engine and activate the drive forward function for one minute, measuring the volume of oil. Is the oil volume greater than 1 gallon (3.8 liters)? Repeat for each motor.
yes
Repair or replace the faulty drive motor(s).
no
Disconnect and plug the A & B hoses at the drive manifold. Start the engine and activate the drive forward function. Is the pressure 4250 psi (293 bar) or more?
no
Repair or replace the hydraulic swivel.
yes
Consult the Genie Industries Service Department.

Chart 41

Drive Enable Fault

Be sure all other functions operate normally.

Be sure the batteries are fully charged and properly connected.

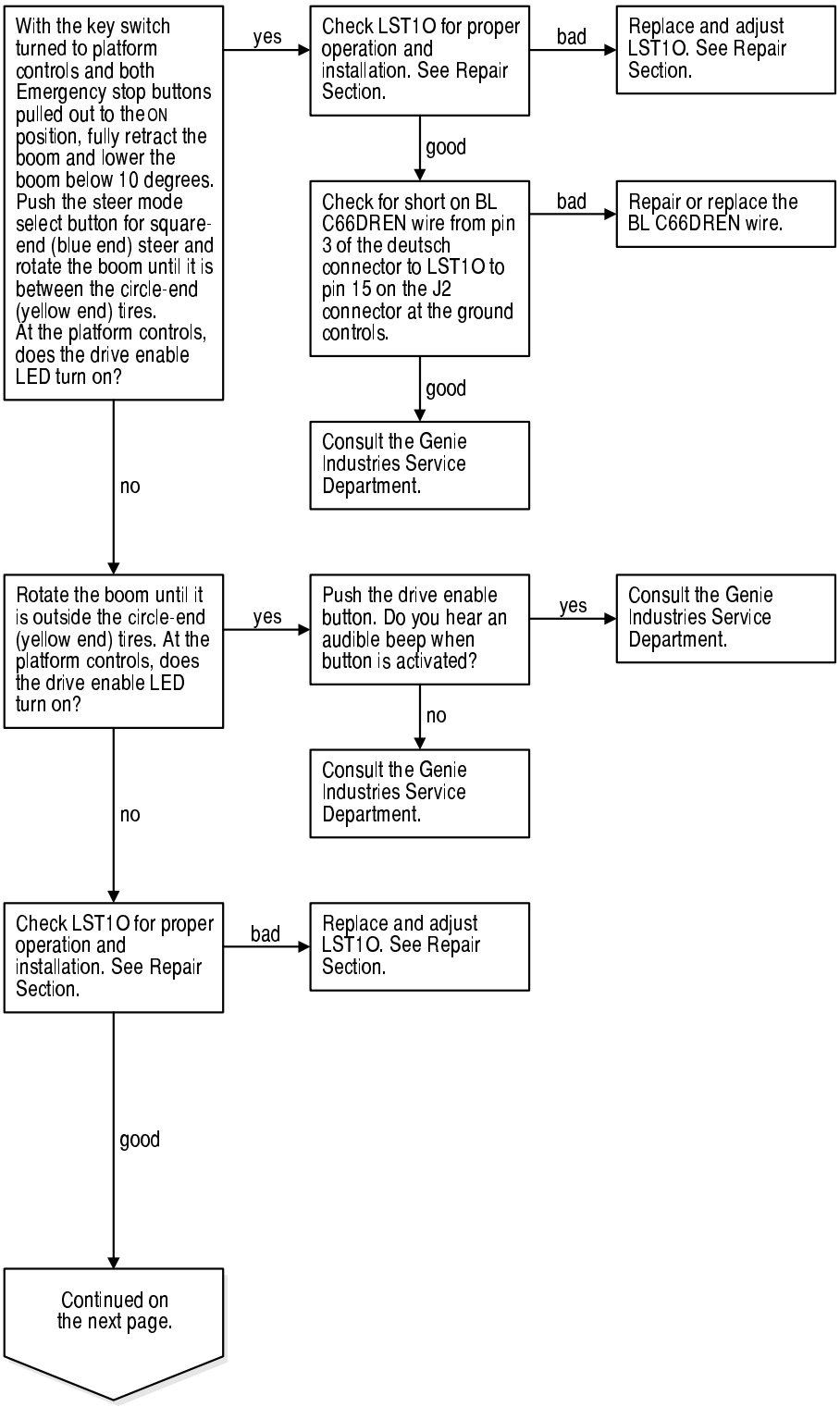

With the key switch turned to platform controls and both Emergency stop buttons pulled out to the ON position, fully retract the boom and lower the boom below 10 degrees. Push the steer mode select button for square-end (blue end) steer and rotate the boom until it is between the circle-end (yellow end) tires. At the platform controls, does the drive enable LED turn on?
yes
Check LST1O for proper operation and installation. See Repair Section.
bad
Replace and adjust LST1O. See Repair Section.
good
Check for short on BL C66DREN wire from pin 3 of the deutsch connector to LST1O to pin 15 on the J2 connector at the ground controls.
bad
Repair or replace the BL C66DREN wire.
good
Consult the Genie Industries Service Department.
no
Rotate the boom until it is outside the circle-end (yellow end) tires. At the platform controls, does the drive enable LED turn on?
yes
Push the drive enable button. Do you hear an audible beep when button is activated?
yes
Consult the Genie Industries Service Department.
no
Consult the Genie Industries Service Department.
no
Check LST1O for proper operation and installation. See Repair Section.
bad
Replace and adjust LST1O. See Repair Section.
good
Continued on the next page.

CHART 41

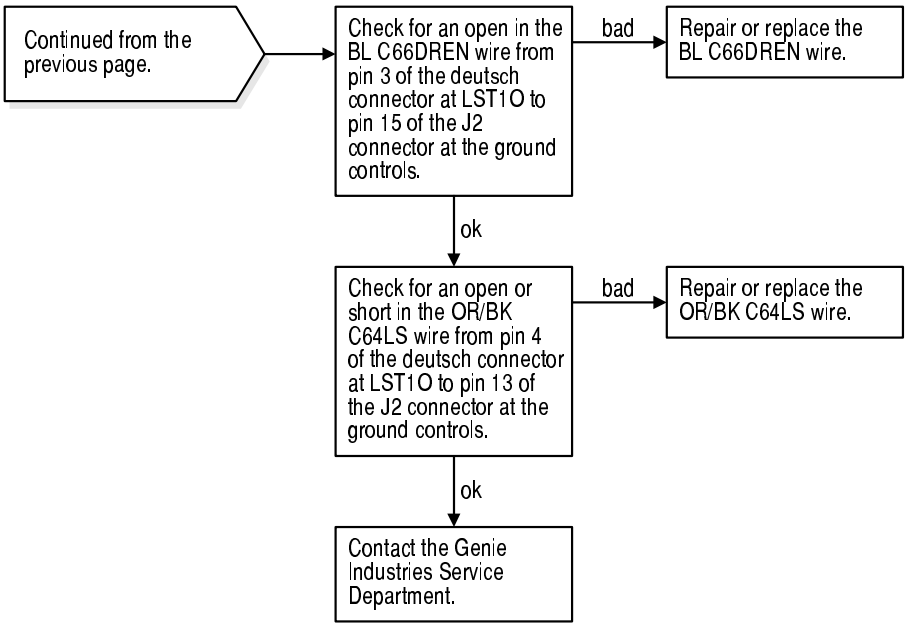

Continued from the previous page.
Check for an open in the BL C66DREN wire from pin 3 of the deutsch connector at LST1O to pin 15 of the J2 connector at the ground controls.
bad
Repair or replace the BL C66DREN wire.
ok
Check for an open or short in the OR/BK C64LS wire from pin 4 of the deutsch connector at LST1O to pin 13 of the J2 connector at the ground controls.
bad
Repair or replace the OR/BK C64LS wire.
ok
Contact the Genie Industries Service Department.

Chart 42

Drive Mode Select Inoperative

Be sure the boom is in the stowed position.

Be sure all other functions operate normally.

Be sure the batteries are fully charged and properly connected.

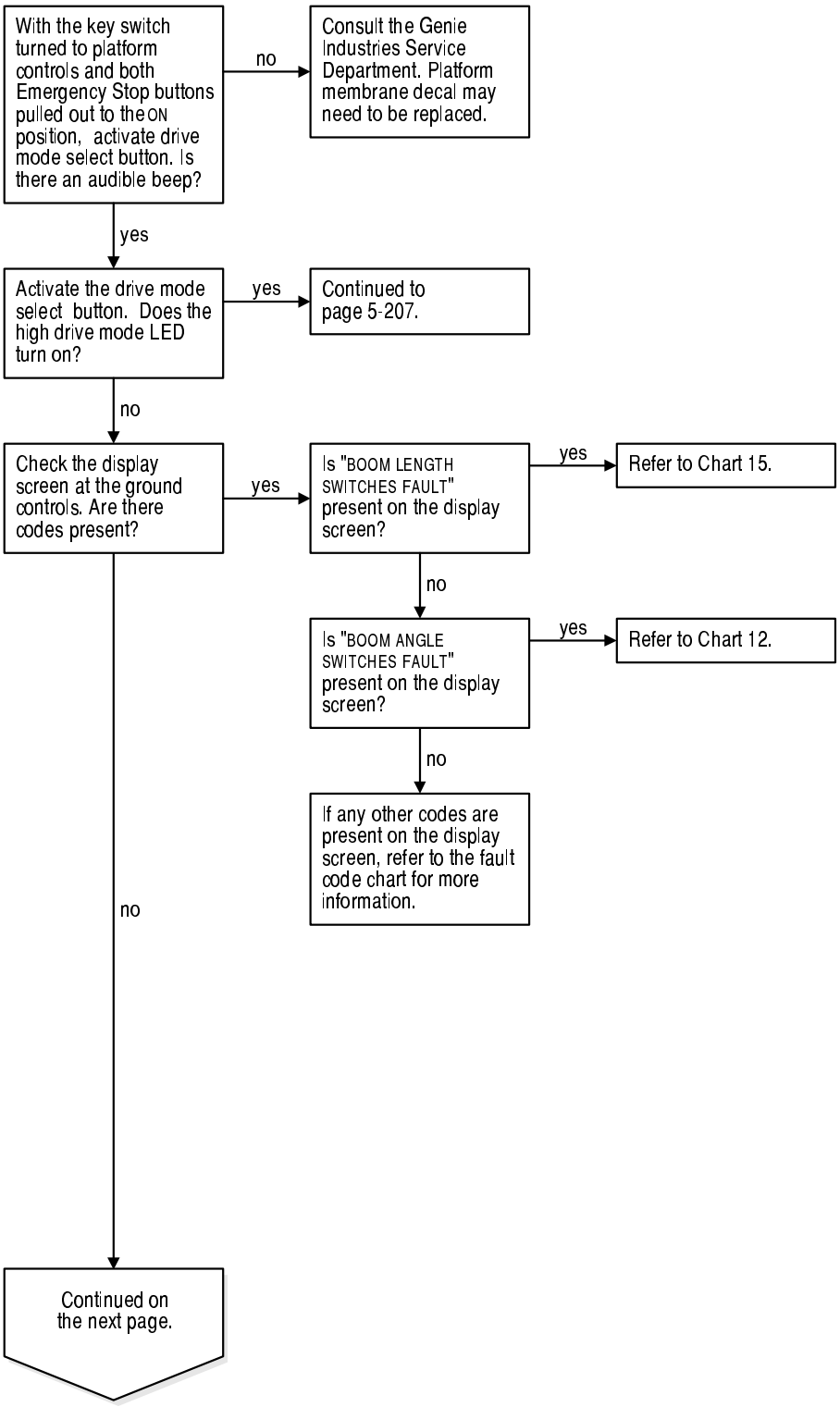

With the key switch turned to platform controls and both Emergency Stop buttons pulled out to the ON position, activate drive mode select button. Is there an audible beep?
no
Consult the Genie Industries Service Department. Platform membrane decal may need to be replaced.
yes
Activate the drive mode select button. Does the high drive mode LED turn on?
yes
Continued to page 5-207.
no
Check the display screen at the ground controls. Are there codes present?
yes
Is "BOOM LENGTH SWITCHES FAULT" present on the display screen?
yes
Refer to Chart 15.
no
Is "BOOM ANGLE SWITCHES FAULT" present on the display screen?
yes
Refer to Chart 12.
no
If any other codes are present on the display screen, refer to the fault code chart for more information.
no
Continued on the next page.

CHART 42

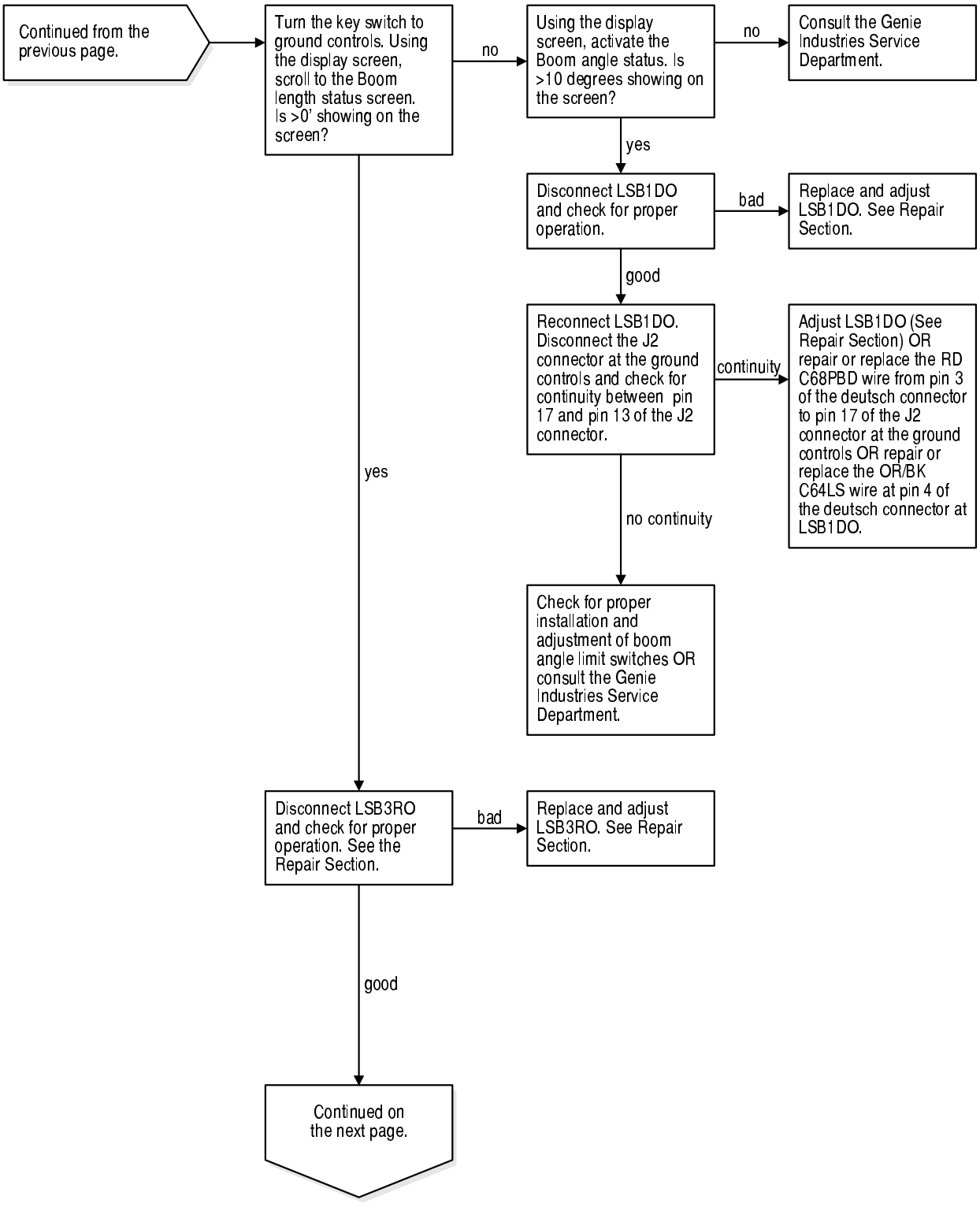

Continued from the previous page.
Turn the key switch to ground controls. Using the display screen, scroll to the Boom length status screen. Is >0' showing on the screen?
no
Using the display screen, activate the Boom angle status. Is >10 degrees showing on the screen?
no
Consult the Genie Industries Service Department.
yes
Disconnect LSB1DO and check for proper operation.
bad
Replace and adjust LSB1DO. See Repair Section.
good
Reconnect LSB1DO. Disconnect the J2 connector at the ground controls and check for continuity between pin 17 and pin 13 of the J2 connector.
continuity
Adjust LSB1DO (See Repair Section) OR repair or replace the RD C68PBD wire from pin 3 of the deutsch connector to pin 17 of the J2 connector at the ground controls OR repair or replace the OR/BK C64LS wire at pin 4 of the deutsch connector at LSB1DO.
no continuity
Check for proper installation and adjustment of boom angle limit switches OR consult the Genie Industries Service Department.
yes
Disconnect LSB3RO and check for proper operation. See the Repair Section.
bad
Replace and adjust LSB3RO. See Repair Section.
good
Continued on the next page.

CHART 42

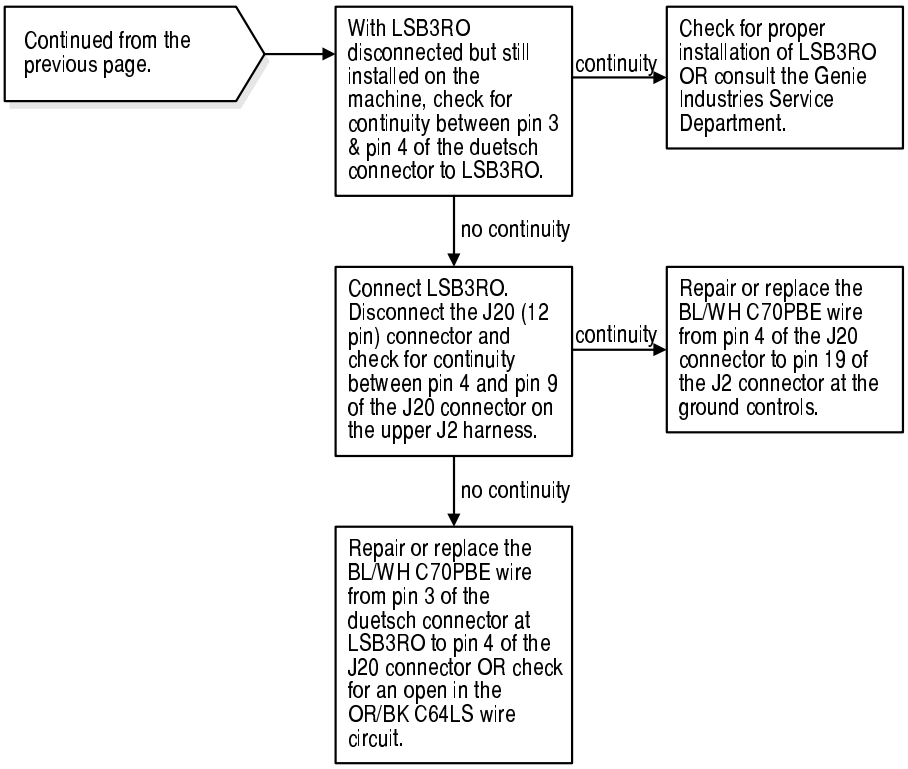

Continued from the previous page.
With LSB3RO disconnected but still installed on the machine, check for continuity between pin 3 & pin 4 of the duetsch connector to LSB3RO.
continuity
Check for proper installation of LSB3RO OR consult the Genie Industries Service Department.
no continuity
Connect LSB3RO. Disconnect the J20 (12 pin) connector and check for continuity between pin 4 and pin 9 of the J20 connector on the upper J2 harness.
continuity
Repair or replace the BL/WH C70PBE wire from pin 4 of the J20 connector to pin 19 of the J2 connector at the ground controls.
no continuity
Repair or replace the BL/WH C70PBE wire from pin 3 of the duetsch connector at LSB3RO to pin 4 of the J20 connector OR check for an open in the OR/BK C64LS wire circuit.

CHART 42

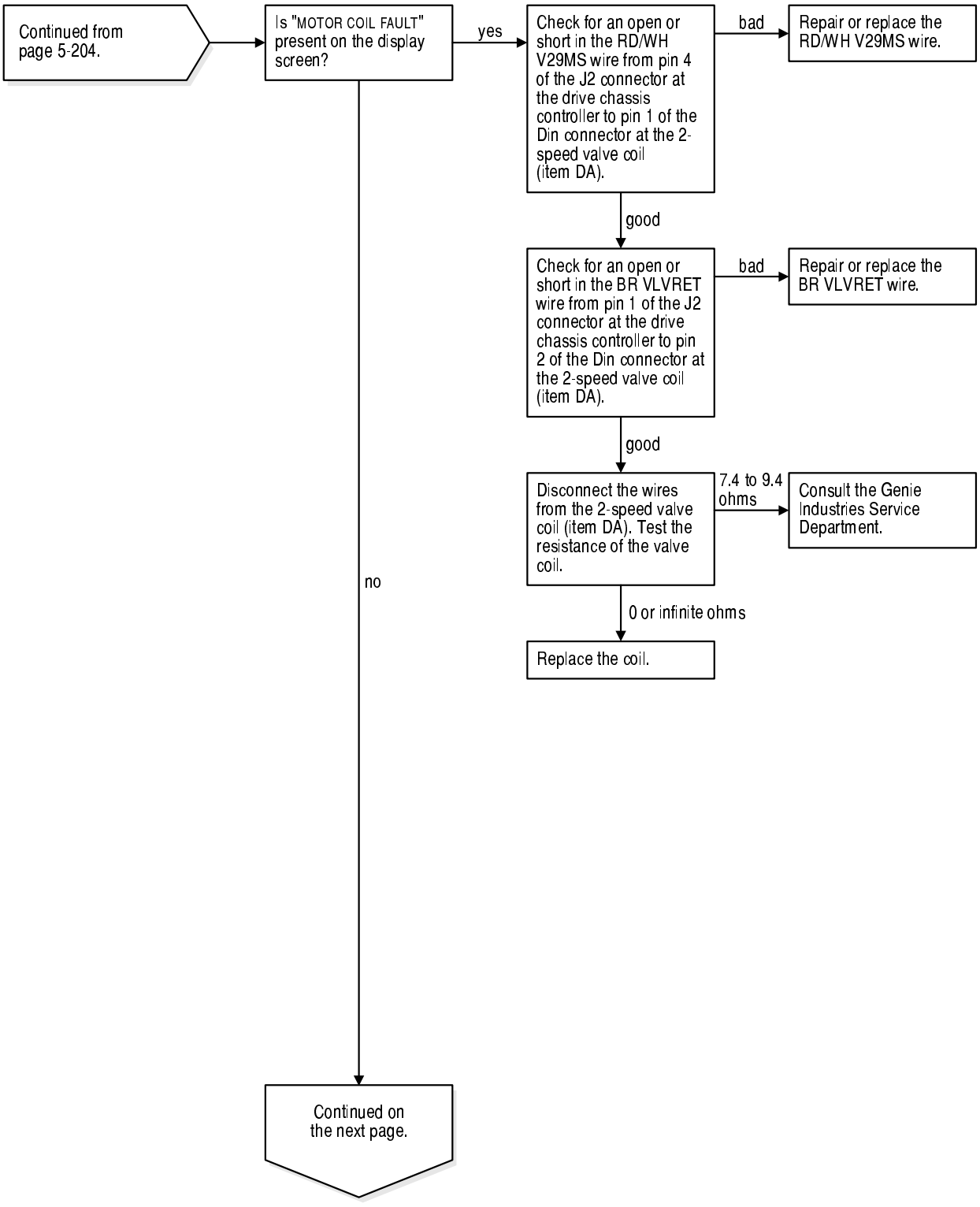

Continued from page 5-204.
Is "MOTOR COIL FAULT" present on the display screen?
yes
no
Check for an open or short in the RD/WH V29MS wire from pin 4 of the J2 connector at the drive chassis controller to pin 1 of the Din connector at the 2-speed valve coil (item DA).
bad
Repair or replace the RD/WH V29MS wire.
good
Check for an open or short in the BR VLVRET wire from pin 1 of the J2 connector at the drive chassis controller to pin 2 of the Din connector at the 2-speed valve coil (item DA).
bad
Repair or replace the BR VLVRET wire.
good
Disconnect the wires from the 2-speed valve coil (item DA). Test the resistance of the valve coil.
7.4 to 9.4 ohms
Consult the Genie Industries Service Department.
0 or infinite ohms
Replace the coil.
Continued on the next page.

CHART 42

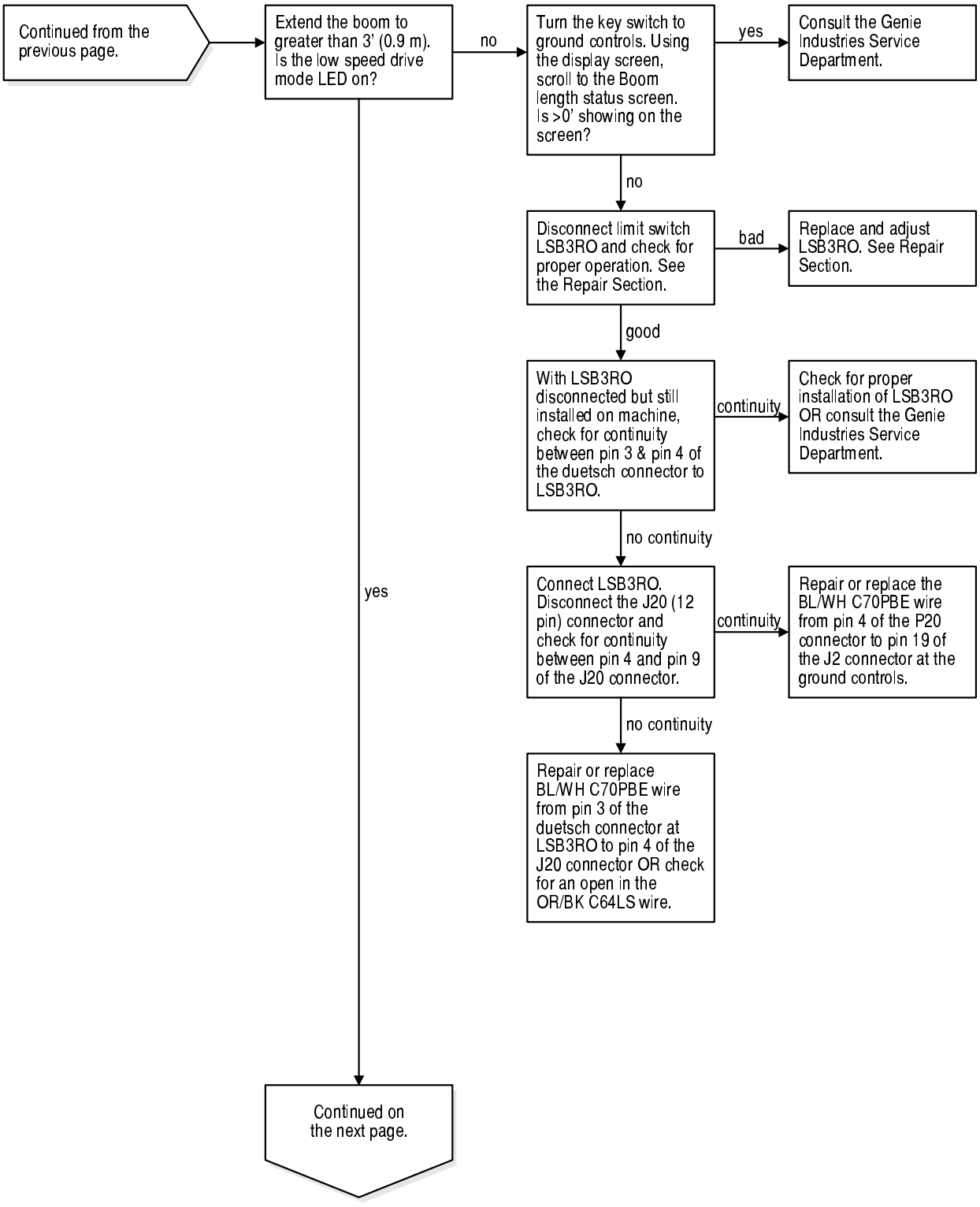

Continued from the previous page.
Extend the boom to greater than 3' (0.9 m). Is the low speed drive mode LED on?
no
Turn the key switch to ground controls. Using the display screen, scroll to the Boom length status screen. Is >0' showing on the screen?
yes
Consult the Genie Industries Service Department.
no
Disconnect limit switch LSB3RO and check for proper operation. See the Repair Section.
bad
Replace and adjust LSB3RO. See Repair Section.
good
With LSB3RO disconnected but still installed on machine, check for continuity between pin 3 & pin 4 of the duetsch connector to LSB3RO.
continuity
Check for proper installation of LSB3RO OR consult the Genie Industries Service Department.
no continuity
Connect LSB3RO. Disconnect the J20 (12 pin) connector and check for continuity between pin 4 and pin 9 of the J20 connector.
continuity
Repair or replace the BL/WH C70PBE wire from pin 4 of the P20 connector to pin 19 of the J2 connector at the ground controls.
no continuity
Repair or replace BL/WH C70PBE wire from pin 3 of the duetsch connector at LSB3RO to pin 4 of the J20 connector OR check for an open in the OR/BK C64LS wire.
yes
Continued on the next page.

CHART 42

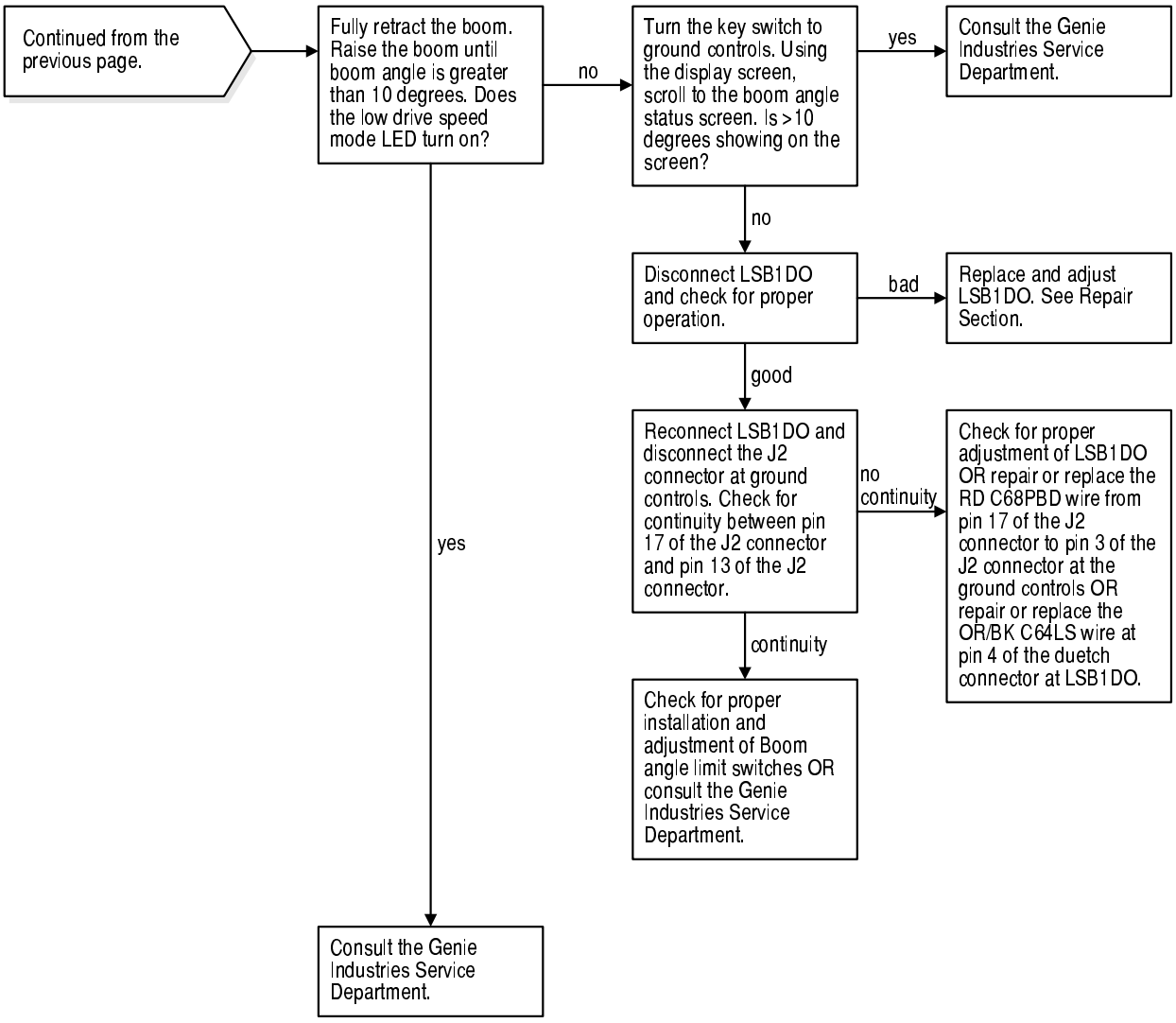

Continued from the previous page.
Fully retract the boom. Raise the boom until boom angle is greater than 10 degrees. Does the low drive speed mode LED turn on?
no
Turn the key switch to ground controls. Using the display screen, scroll to the boom angle status screen. Is >10 degrees showing on the screen?
yes
Consult the Genie Industries Service Department.
no
Disconnect LSB1DO and check for proper operation.
bad
Replace and adjust LSB1DO. See Repair Section.
good
Reconnect LSB1DO and disconnect the J2 connector at ground controls. Check for continuity between pin 17 of the J2 connector and pin 13 of the J2 connector.
no continuity
Check for proper adjustment of LSB1DO OR repair or replace the RD C68PBD wire from pin 17 of the J2 connector to pin 3 of the J2 connector at the ground controls OR repair or replace the OR/BK C64LS wire at pin 4 of the duetch connector at LSB1DO.
continuity
Check for proper installation and adjustment of Boom angle limit switches OR consult the Genie Industries Service Department.
yes
Consult the Genie Industries Service Department.

Chart 43

Engine Start Assist Inoperative

Be sure the boom is in the stowed position.

Be sure all other functions operate normally.

Be sure the batteries are fully charged and properly connected.

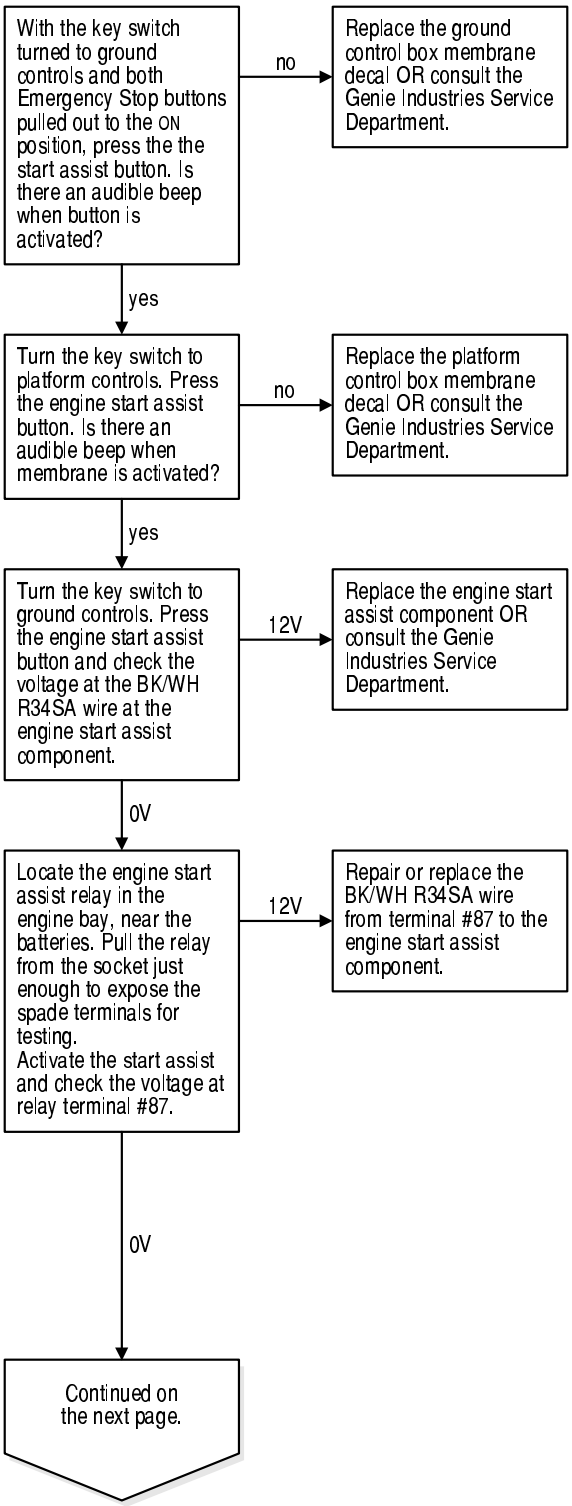

With the key switch turned to ground controls and both Emergency Stop buttons pulled out to the ON position, press the the start assist button. Is there an audible beep when button is activated?
no
Replace the ground control box membrane decal OR consult the Genie Industries Service Department.
yes
Turn the key switch to platform controls. Press the engine start assist button. Is there an audible beep when membrane is activated?
no
Replace the platform control box membrane decal OR consult the Genie Industries Service Department.
yes
Turn the key switch to ground controls. Press the engine start assist button and check the voltage at the BK/WH R34SA wire at the engine start assist component.
12V
Replace the engine start assist component OR consult the Genie Industries Service Department.
0V
Locate the engine start assist relay in the engine bay, near the batteries. Pull the relay from the socket just enough to expose the spade terminals for testing.
Activate the start assist and check the voltage at relay terminal #87.
12V
Repair or replace the BK/WH R34SA wire from terminal #87 to the engine start assist component.
0V
Continued on the next page.

CHART 43

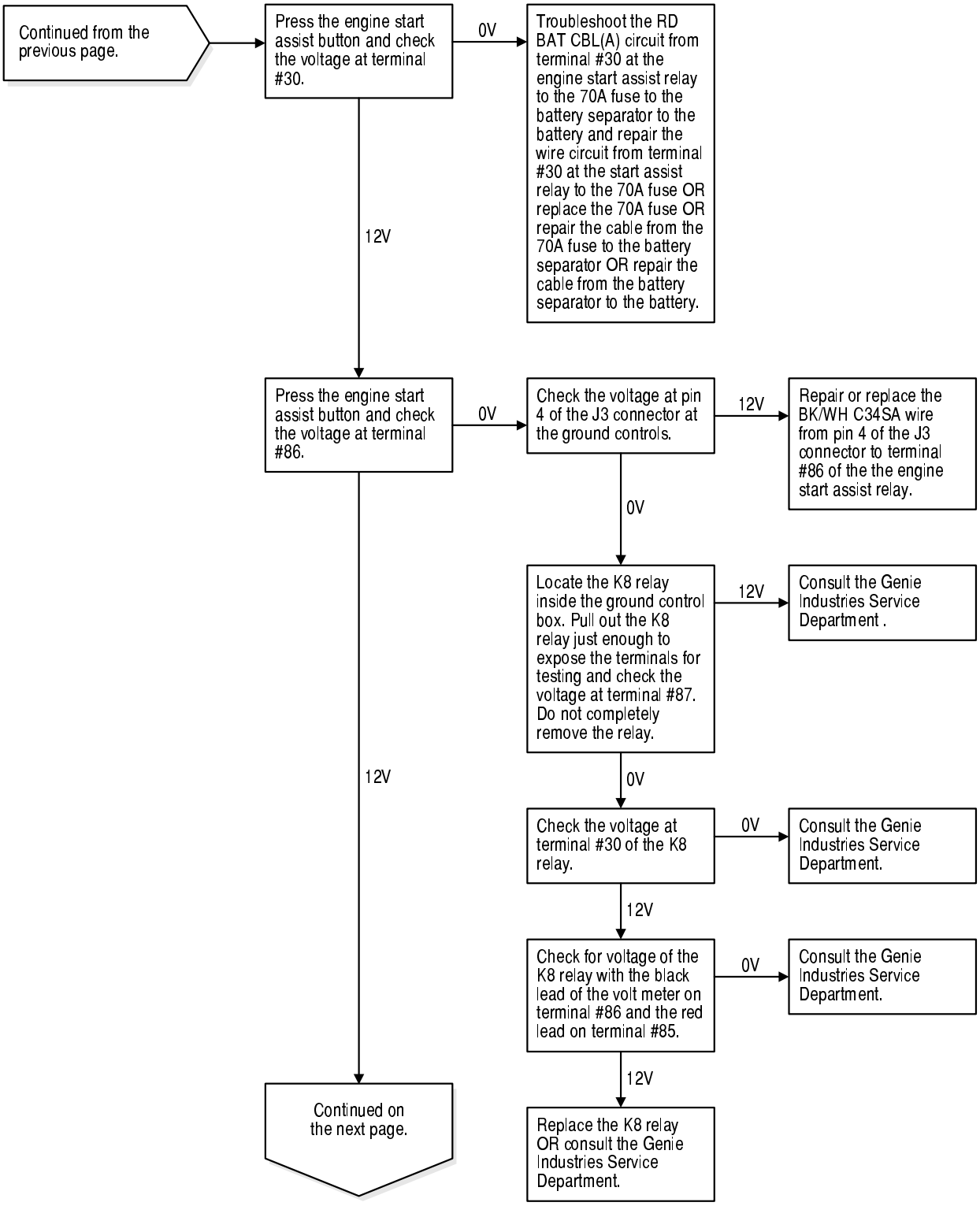

Continued from the previous page.
Press the engine start assist button and check the voltage at terminal #30.
0V
Troubleshoot the RD BAT CBL(A) circuit from terminal #30 at the engine start assist relay to the 70A fuse to the battery separator to the battery and repair the wire circuit from terminal #30 at the start assist relay to the 70A fuse OR replace the 70A fuse OR repair the cable from the 70A fuse to the battery separator OR repair the cable from the battery separator to the battery.
12V
Press the engine start assist button and check the voltage at terminal #86.
0V
Check the voltage at pin 4 of the J3 connector at the ground controls.
12V
Repair or replace the BK/WH C34SA wire from pin 4 of the J3 connector to terminal #86 of the the engine start assist relay.
0V
Locate the K8 relay inside the ground control box. Pull out the K8 relay just enough to expose the terminals for testing and check the voltage at terminal #87. Do not completely remove the relay.
12V
Consult the Genie Industries Service Department .
12V
0V
Check the voltage at terminal #30 of the K8 relay.
0V
Consult the Genie Industries Service Department.
12V
Check for voltage of the K8 relay with the black lead of the volt meter on terminal #86 and the red lead on terminal #85.
0V
Consult the Genie Industries Service Department.
12V
Continued on the next page.
Replace the K8 relay OR consult the Genie Industries Service Department.

CHART 43

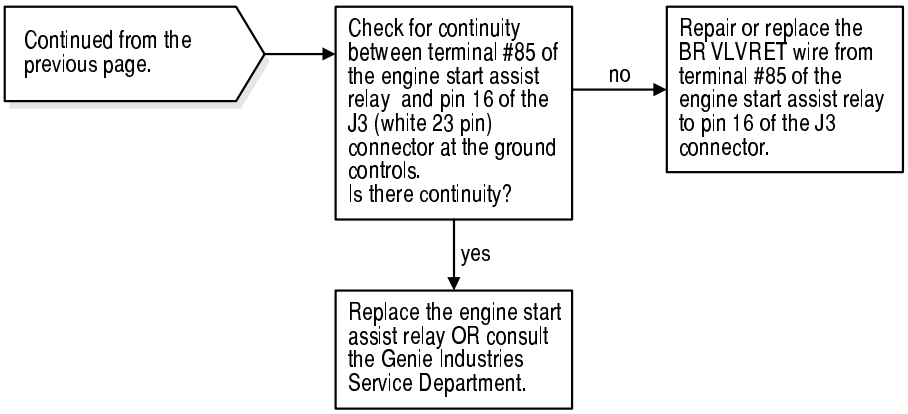

Continued from the previous page.
Check for continuity between terminal #85 of the engine start assist relay and pin 16 of the J3 (white 23 pin) connector at the ground controls.
Is there continuity?
no
Repair or replace the BR VLVRET wire from terminal #85 of the engine start assist relay to pin 16 of the J3 connector.
yes
Replace the engine start assist relay OR consult the Genie Industries Service Department.

Chart 44

Auxiliary Drive Function Inoperative

Be sure the auxiliary drive option has been activated.

Be sure all other functions operate normally.

Be sure the batteries are fully charged and properly connected.

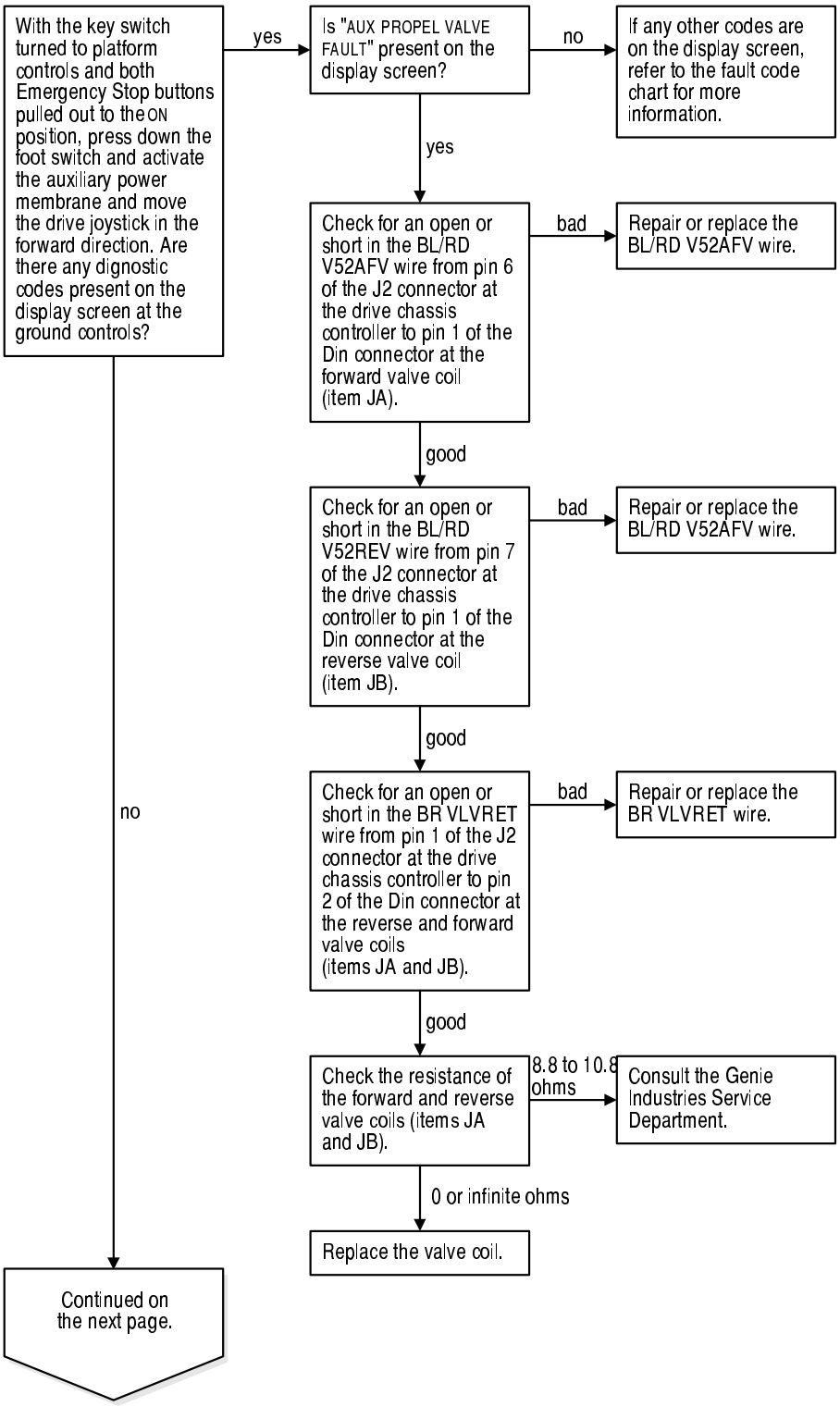
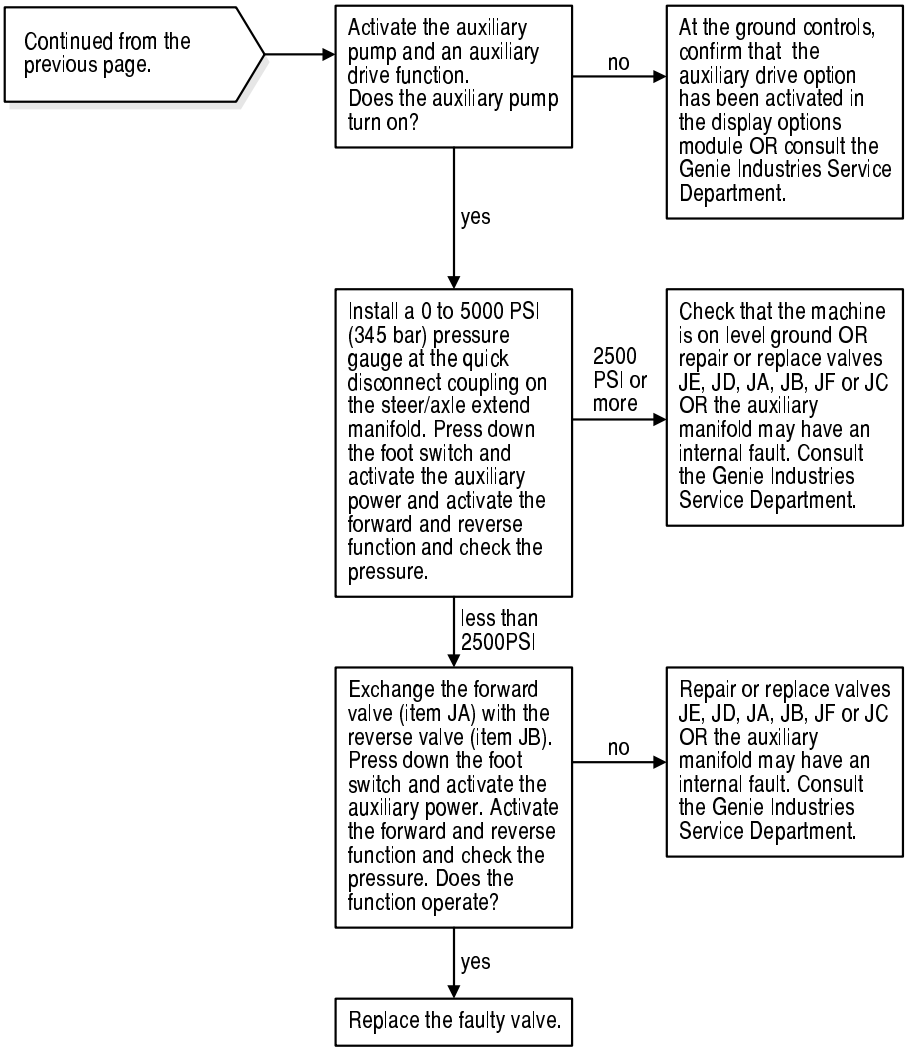

With the key switch turned to platform controls and both Emergency Stop buttons pulled out to the ON position, press down the foot switch and activate the auxiliary power membrane and move the drive joystick in the forward direction. Are there any dignostic codes present on the display screen at the ground controls?
yes
Is "AUX PROPEL VALVE FAULT" present on the display screen?
no
If any other codes are on the display screen, refer to the fault code chart for more information.
yes
Check for an open or short in the BL/RD V52AFV wire from pin 6 of the J2 connector at the drive chassis controller to pin 1 of the Din connector at the forward valve coil (item JA).
bad
Repair or replace the BL/RD V52AFV wire.
good
Check for an open or short in the BL/RD V52REV wire from pin 7 of the J2 connector at the drive chassis controller to pin 1 of the Din connector at the reverse valve coil (item JB).
bad
Repair or replace the BL/RD V52AFV wire.
good
Check for an open or short in the BR VLVRET wire from pin 1 of the J2 connector at the drive chassis controller to pin 2 of the Din connector at the reverse and forward valve coils (items JA and JB).
bad
Repair or replace the BR VLVRET wire.
good
Check the resistance of the forward and reverse valve coils (items JA and JB).
8.8 to 10.8 ohms
Consult the Genie Industries Service Department.
0 or infinite ohms
Replace the valve coil.
no
Continued on the next page.

CHART 44


Continued from the previous page.
Activate the auxiliary pump and an auxiliary drive function. Does the auxiliary pump turn on?
no
At the ground controls, confirm that the auxiliary drive option has been activated in the display options module OR consult the Genie Industries Service Department.
yes
Install a 0 to 5000 PSI (345 bar) pressure gauge at the quick disconnect coupling on the steer/axle extend manifold. Press down the foot switch and activate the auxiliary power and activate the forward and reverse function and check the pressure.
2500 PSI or more
Check that the machine is on level ground OR repair or replace valves JE, JD, JA, JB, JF or JC OR the auxiliary manifold may have an internal fault. Consult the Genie Industries Service Department.
less than 2500PSI
Exchange the forward valve (item JA) with the reverse valve (item JB). Press down the foot switch and activate the auxiliary power. Activate the forward and reverse function and check the pressure. Does the function operate?
no
Repair or replace valves JE, JD, JA, JB, JF or JC OR the auxiliary manifold may have an internal fault. Consult the Genie Industries Service Department.
yes
Replace the faulty valve.

Schematics

Observe and Obey:

- ☑ Troubleshooting and repair procedures shall be completed by a person trained and qualified on the repair of this machine.
- ☑ Immediately tag and remove from service a damaged or malfunctioning machine.
- ☑ Repair any machine damage or malfunction before operating the machine.

Before Troubleshooting:

- ☑ Read, understand and obey the safety rules and operating instructions printed in the *Genie S-100 and Genie S-105 Operator's Manual* or *Genie S-120 and Genie S-125 Operator's Manual.*
- ☑ Be sure that all necessary tools and test equipment are available and ready for use.

About This Section

There are two groups of schematics in this section. An illustration legend precedes each group of drawings.

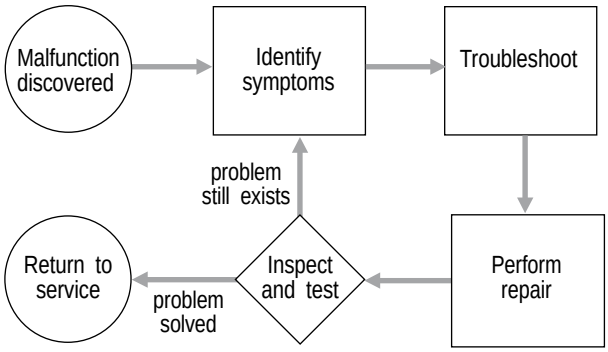
Electrical Schematics

⚠WARNING Electrocution hazard. Contact with electrically charged circuits could result in death or serious injury. Remove all rings, watches and other jewelry.

Hydraulic Schematics

⚠WARNING Bodily injury hazard. Spraying hydraulic oil can penetrate and burn skin. Loosen hydraulic connections very slowly to allow the oil pressure to dissipate gradually. Do not allow oil to squirt or spray.

General Repair Process



Electrical Components

Item	Description	Genie Part Number	Manufacturer	Manufacturer Part Number	Qty
B1	Battery, 12V DC, 105AH	57159	Allied	Group 27TM	1
B2	Battery, 12V DC, 190AH	57160	Allied	Group 4D	1
B3	Battery separator	61343	Surepower Industries	1314	1
CB1	Circuit breaker, 40A	61188	Klixon	7851-37-40-I	1
CB2	Circuit breaker, 20A	61187	Klixon	7851-37-20-I	1
CR6, CR7, CR10 through CR17	Relay, SPDT, 12V DC	34052	Potter-Brumfield	VF4-15F11-CO5	10
F1	Fuse, 20A, Maxi (Deutz models)	75433	Bussman	MAX 20	1
F2	Fuse, 70A, Maxi	61116	Bussman	MAX 70	1
FB	Flashing beacon	20189	ECCO Electronic Controls	6400A-GEN	2
FS1	Foot switch	13482	Linemaster Switch Corp.	632-S	1
H1, H2	Alarm - Audio	62379	Sauer Danfoss	K27631	2
H3	Horn, 12V DC, 112 dB	54506	Wolo Industries	300LJ-12	1
JC1, JC3	Joystick controller, Dual axis	62390	Sauer Danfoss	K26519(1090332)	2
JC2	Joystick controller, Single axis	62391	Sauer Danfoss	K26520(1090333)	1
KS1, KS2	Contact, N.O.	45081	Telemecanique	ZB2-BE101	5
	Contact, N.C.	29732	Telemecanique	ZB2-BE102	6

ELECTRICAL COMPONENTS

Item	Description	Genie Part Number	Manufacturer	Manufacturer Part Number	Qty
Proximity switch	Proximity switch	60987	Power Components	FP-2000	10
Relay	Relay, SPDT, 12V DC (Deutz models)	60521	Potter-Brumfield	VF4-65F11-S01	4
	(Cummins and Perkins models)	60521	Potter-Brumfield	VF4-65F11-S01	3
Relay	Relay, SPDT, 12V DC (Deutz models)	61225	Potter-Brumfield	VF7-41F11-C05	2
	(Cummins and Perkins models)	61225	Potter-Brumfield	VF7-41F11-C05	1
SS1 through SS4	Steer sensor	50159	Power Components	HP-NRPS	4
TS1, TS2, TS3	Toggle switch, DPDT, 3 position momentary	16397	Microswitch Control Inc.	2NT1-7	3

Wire Circuit Legend

Circuit numbering

1 Circuit numbers consist of three parts: the circuit prefix, circuit number and circuit suffix. The circuit prefix indicates the type of circuit. The circuit number describes the function of the circuit. The circuit suffix provides an abbreviation for the number or may be used to further define the function of this portion of the circuit. It also may be used to indicate the final end of the circuit, i.e., LS or limit sw.

2 The circuit number may be used more than once in a circuit.

For Example:

C 74 PRLO – This is the circuit for the lockout valve #1. C stands for control, 74 is the number of the circuit for the primary #1 lock out valve. PRLO stands for Primary Lockout.

S 62 BSTO – This is the circuit that communicates to the onboard computers of the machine that the boom is fully stowed. S stands for safety, 62 is the number of the circuit for boom stowed and BSTO stands for Boom Stowed.

P 48 LP – P stands for power. 48 is the circuit number for work lamps and LP stands for Lamp.

R 48 LP – R stands for relay. In this case it is the wire that feeds the relay coil for the work lamp. All other numbers remain the same.

V 61 AXRT – V stands for valve power. 61 stands for axle retracted circuit and AXRT is the mnemonic for Axle Retracted.

Circuit suffix

Definition	suffix
AC Generator	GEN
Angle	ANG
Auxiliary Boom Valve	ABV
Auxiliary Forward Valve	AFV
Auxiliary Platform Valve	APV
Auxiliary Reverse Valve	AREV
Auxiliary Reverse Valve	AREV
Auxiliary Steer/Drive Valve	ASV
Axle Extend Valve	AXEX
Axle Oscillate	AXOS
Axle Retract Valve	AXRT
Battery	BAT
Boom Extended	BEX
Boom Stowed	BST
Brake	BRK
Bypass Valves	BV
CAN High Signal	CAN+
CAN Low Signal	CAN-
CAN Shield	SHLD
Chain Break	CNBK
Data High	DTA+
Data Low	DTA-
Drive Chassis Controller	DCON
Drive Enable	DRE
Electrical Displacement Control	EDC
Engine Speed Select	ESPD
Engine Status Lamp	ESL
Filter Restricted	FLR
Filter Switch	FLTR
Float Switch	FS
Foot switch Signal	FTS
Forward	FWD
Fuel Select (gas/LP)	FUEL

WIRE CIRCUIT LEGEND

Fuel Solenoid	FSOL
Ground Control	TCON
Horn	HRN
Ignition	IGN
Jib Down	JD
Jib Flow Control	JFC
Jib Select Valve	JSV
Jib Up	JU
Lamps	LPS
Left Front	LF
Left Front Steer Sensor	LFS
Left Rear	LR
Left Rear Steer Sensor	LRS
Limit Switch	LS
Load Sensor	LDS
Low fuel	LOF
Motor Shift (Speed)	MS
Multi Function Valve	MFV
Platform Control	PCON
Platform Level Down	PLD
Platform Level Flow Control	PLF
Platform Level Up	PLU
Platform Rotate Flow Control	PRF
Platform Rotate Left (CCW)	PRL
Platform Rotate Right (CW)	PRR
Platform Tilt Alarm	PTA
Platform Tilt Sensor	PTS
Pressure Sender	PSR
Pressure Switches	PS
Pri Boom down	PBD
Primary Boom Down	PBD
Primary Boom Extend/Retract Lockout Valve	PBL
Primary Boom Extend	PBE
Primary Boom Extend/Retract Flow Control	PERF
Primary Boom Retract	PBR
Primary Boom Up	PBU
Primary Boom Up/Down Flow Control	PBF
Primary Lockout #1	P1L
Primary Lockout #2	P2L
Proportional Valve	PRV
Proximity Sensor	PXS
Receptacle	REC
Reverse	REV
Right Front	RF
Right Front Steer Sensor	RFS
Right Rear	RR
Right Rear Steer Sensor	RRS
RPM	RPM
Sec Boom Down	SBD
Sec Boom Extend	SBE
Sec Boom Extend/Retract Flow Control	SERF
Sec Boom Retract	SBR
Sec Boom Up	SBU
Sec Boom Up/Down Flow Control	SBFC
Secondary Boom	SB
Secondary Boom Lockout Valve	SBLO
Spare	SP
Start Aid (Glow Plug or choke)	SA
Starter	STR
Steering Valve (CW)	STC
Steering Valve (CCW)	STCC
Temp Sender	TSR
Temp Switches	TS
Tether	TET
Tilt Alarm X axis	TAX
Tilt Alarm Y axis	TAY
Ground Control Panel	TCON
Turntable Rotate Flow Control	TRF
Turntable Rotate Right (CW)	TRR
Turntable Tilt Alarm	TTA
Turntable Tilt Sensor	TTSR
Test Switch	TSW

WIRE CIRCUIT LEGEND

Wire Coloring

1 All cylinder extension colors are solid and all retract functions are striped black. When using black wire, the stripe shall be white.

2 All rotations that are LEFT or CW are solid, RIGHT or CCW are striped and black. When the wire is black, the stripe is white.

3 All proportional valve wiring is striped.

Wire Color Legend

BL	Blue
BL/BK	Blue/Black
BL/RD	Blue/Red
BL/WH	Blue/White
BK	Black
BK/RD	Black/Red
BK/WH	Black/White
BR	Brown
GRN	Green
GR/BK	Green/Black
GR/WH	Green/White
RD	Red
RD/BK	Red/Black
RD/WH	Red/White
OR	Orange
OR/BL	Orange/Blue
OR/BK	Orange/Black
OR/RD	Orange/Red
WHT	White
WH/BK	White/Black
WH/RD	White/Red
YL	Yellow

Color, Circuit #, and Primary function

RD	1	Primary boom up drive
RD/BK	2	Primary boom down drive
RD/WH	3	Primary boom up/down FC proportional valve drive
WH	4	Turntable rotate left valve drive
WH/BK	5	Turntable rotate right valve drive
WH/RD	6	Turntable rotate FC proportional valve drive
BK	7	Primary boom extend
BK/WH	8	Primary boom retract
BK/RD	9	Primary boom Extend/Retract proportional valve drive
BL	10	Secondary boom up valve drive
BL/BK	11	Secondary boom down valve drive
BL/WH	12	Secondary boom up/down FC proportional valve drive
BL/RD	13	Drive enable
OR	14	Platform level up valve
OR/BK	15	Platform level down valve
OR/RD	16	Platform up/down FC proportional valve drive
GR/RD	17	Platform rotate left valve driver
GR/BK	18	Platform rotate right valve driver
GR/WH	19	Jib select valve driver circuit
RD	20	12 battery supply
WH	21	12 ignition supply
BK	22	Key switch power to platform Emergency Stop
WH	23	Power to platform
WH	24	Power to warning senders
WH/BK	25	Power to oil pressure sender
WH/RD	26	Power to temp sender
RD	27	Auxiliary Power
RD/BK	28	Platform level alarm
RD/WH	29	Drive Motor shift (speed)
WH	30	Forward
WH/BK	31	Reverse
WH/RD	32	Brake
BK	33	Start
BK/WH	34	Start Aid (glow plug or choke)
BK/RD	35	Engine speed select
BL	36	Steer clockwise

WIRE CIRCUIT LEGEND

BL/BK	37	Steer counterclockwise
BL/WH	38	Gas
BL/RD	39	LP
OR	40	Limit switch signal stowed
OR/BK	41	RPM signal
OR/RD	42	Boom retracted signal
GR	43	Jib Up
GR/BK	44	Jib Down
GR/WH	45	AC Generator
WH	46	Drive Horn
WH/BK	47	Output Power Enable
WH/RD	48	Work Lamp
WH/BK	49	Motion Lamp
BL	50	Auxiliary Boom
BL/WH	51	Auxiliary Steer
BL/RD	52	Auxiliary Platform
WH/BK	53	Boom envelope safety valve cutoff
BK/WH	54	Power to safety interlock switches (engine)
GR/BK	55	Axle oscillation
RD	56	Foot switch/TCON Emergency Stop power
RD/WH	57	Boom down safety interlock
RD/BK	58	Safety interlock to engine
GR/WH	59	Chain break circuit
GR/WH	60	Axle extend
GR	61	Axle retract
OR	62	Boom stowed (safety)
OR/RD	63	Power to boom envelope safety switch
OR/BL	64	Power for operational switches
BL/WH	65	Low fuel indication
BL	66	Drive Enable
BL	67	Secondary boom not stowed
RD	68	Pri Boom lowered (operational)
BL	69	Pri boom #1 extended
BL/WH	70	Pri boom #2 retracted
BL/BK	71	Pri boom #2 extended
BL/WH	72	Secondary boom extended
BL/RD	73	Secondary boom retracted
RD	74	Pri #1 Lockout
RD/WH	75	Pri #2 Lockout
BL	76	Pri boom #3 extended
WH	77	Lower Angle #1 operational
WH/BK	78	Upper Angle #2 operational
BK	79	power from TCON ESTOP
	80	Can 2.0/J1939 Shield
GR	81	Can 2.0/J1939 Low
YL	82	Can 2.0/J1939 High
GR/WH	83	Tilt signal x axis
GR/BK	84	Tilt signal y axis
GR	85	Tilt sensor power
OR	86	Hydraulic Filter restricted
RD	87	Platform Level Safety Power
RD/BK	88	Platform Level Safety Output
BR	89	Platform Level Safety Ground
RD/BK	90	Proximity Kill
RD/WH	91	Gate Interlock
WH/BK	92	Motor Speed (LO/HI)
WH/RD	93	Motor Bypass
WH	94	Load Sensor
OR	95	Tether ESTOP return
RD	96	Tether Power
BK	97	Tether ESTOP Power
WH	98	J1708 + (high)
BK	99	J1708- (low)
WH/RD	100	Outrigger lowered
WH/BK	101	Outrigger raised
OR	102	Pothole protector up
OR/RD	103	Pothole protector down
BK/WH	104	Proprietary Data buss -
BK/RD	105	Proprietary Data buss +
GR	106	Spare
RD	107	Alternator Field
BK/RD	108	Engine Status
GR/WH	109	Sensor Pwr
BK	110	Sensor Return
OR	111	Steer Signal
RD	112	Steer Signal to Solenoid Valve
OR/RD	113	Multi Function Valve
BK/RD	114	Load Moment Overweight
RD/BK	115	Load Moment Underweight
GRN	116	AC Power Ground
WHT	117	AC Power Neutral Wire (-)
BK	118	AC Power Hot Wire (+)
BL	119	Hydraulic Pressure Sensor Output

Limit Switches

Types of Limit Switches

There are two types of limit switches, which are found in various locations throughout the machine: mechanical-type **operational** or **safety** switches and magnetic **proximity** switches. As in aircraft, which features redundant safety systems, each mechanical safety switch is backed up with an independently functioning proximity switch.

The mechanical-type **operational** or **safety** switches are used to sense a positive displacement or movement of the limit switch actuator, or arm, as the machine moves through its range of operational functions. Included in this group are envelope limit switches, which sense the extended length and angle of the boom, position of the axles and rotational position of the turntable.
For example, when the 53° operational switch is activated by achieving a 53° boom angle, the boom may then be extended beyond 75 feet (22.9 m). Another example is the drive enable limit switch, which disables the drive function anytime the boom is rotated past the rear axles, indicated by the 'square' end of the drive chassis.
In some cases, the engine will be stopped if safety parameters are exceeded.

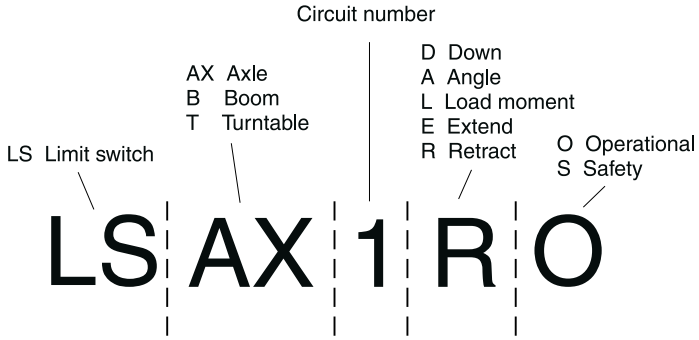
Magnetic **proximity** switches are used to sense very specific positions of a part of the machine in relation to the remainder of the machine. Proximity switches must be correctly aligned for the machine functions to operate. Proximity switches are found at the front and rear axle, the turntable and several locations on the boom.

Limit Switch Numbering

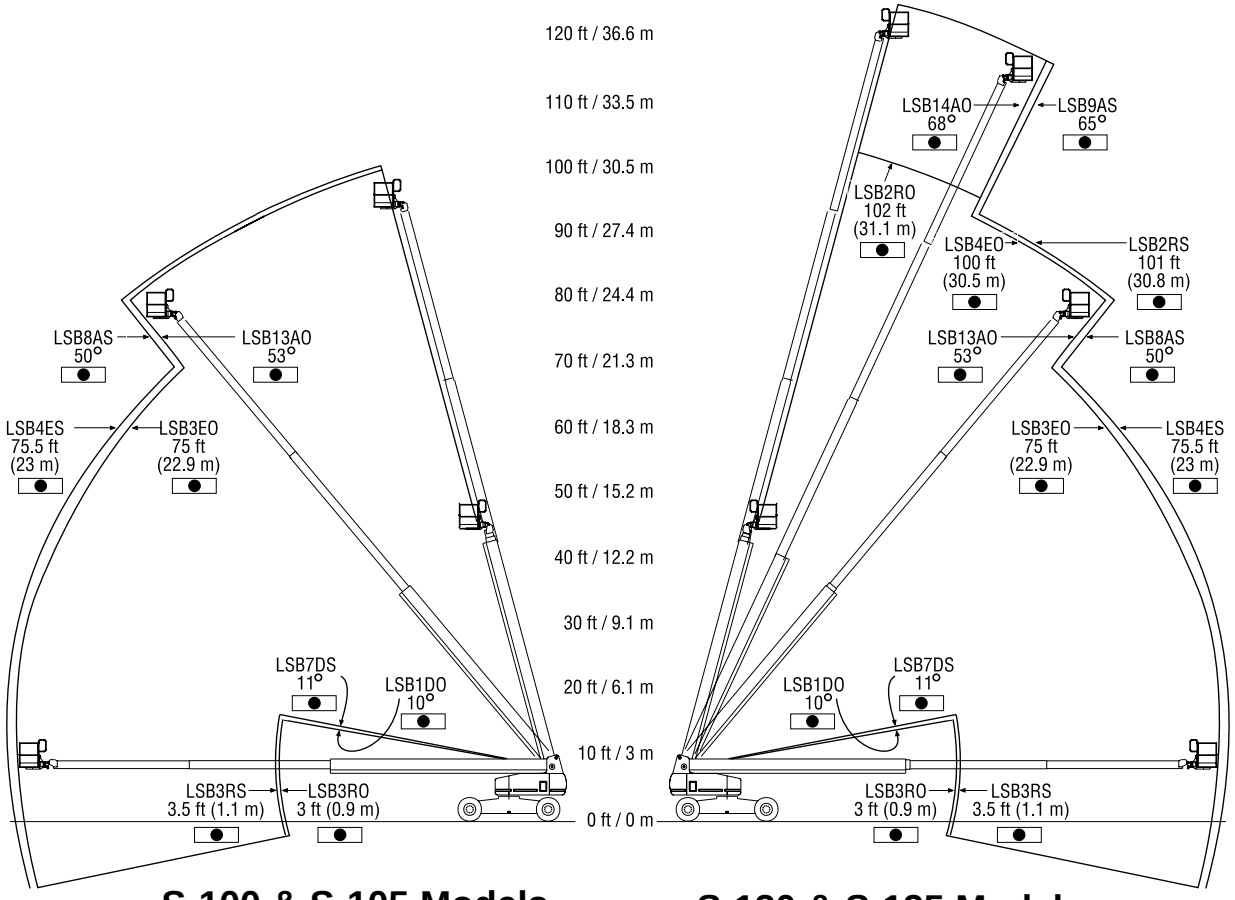
LSAX1RO	Front axle retract proximity
LSAX2RO	Rear axle retract proximity
LSAX1EO	Front axle extend proximity
LSAX2EO	Rear axle extend proximity
LSAX1ES	Front axle extend safety
LSAX2ES	Rear axle extend safety
LSB6S	Cable tension safety
LSB7DS	Boom 11° angle safety
LSB3RS	Boom 3 foot (0.9 m) extend safety
LSB2RS ••	Boom 101 feet (30.8 m) extend safety
LSB9AS ••	Boom 65° angle safety
LSB8AS	Boom 50° angle safety
LSB4ES	Boom 76 feet (23.2 m) extend safety
LST1O	Drive enable mechanical
LSB1DO	Boom 10° mechanical
LSB2RO ••	Boom >100 feet (30.5 m) retract proximity
LSB3RO	Boom >3 feet (0.9 m) stowed mechanical
LSB3EO	Boom 75 feet (22.9 m) extend proximity
LSB4EO ••	Boom 100 feet (30.5 m) extend proximity
LSB13AO	Boom 53° angle proximity
LSB14AO ••	Boom 68° angle proximity
LSB19LO	Load moment mechanical
LSB20LO	Reverse load moment proximity

(•• S-120 and S-125 models only)

Numbering Legend

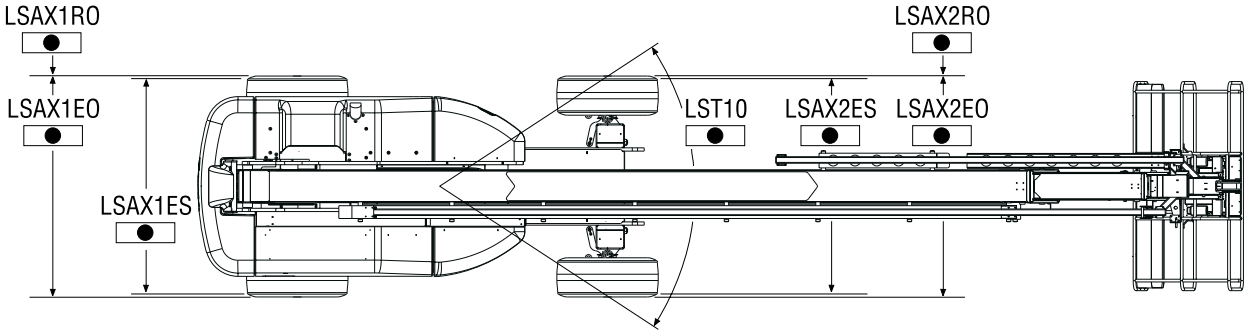


LIMIT SWITCHES

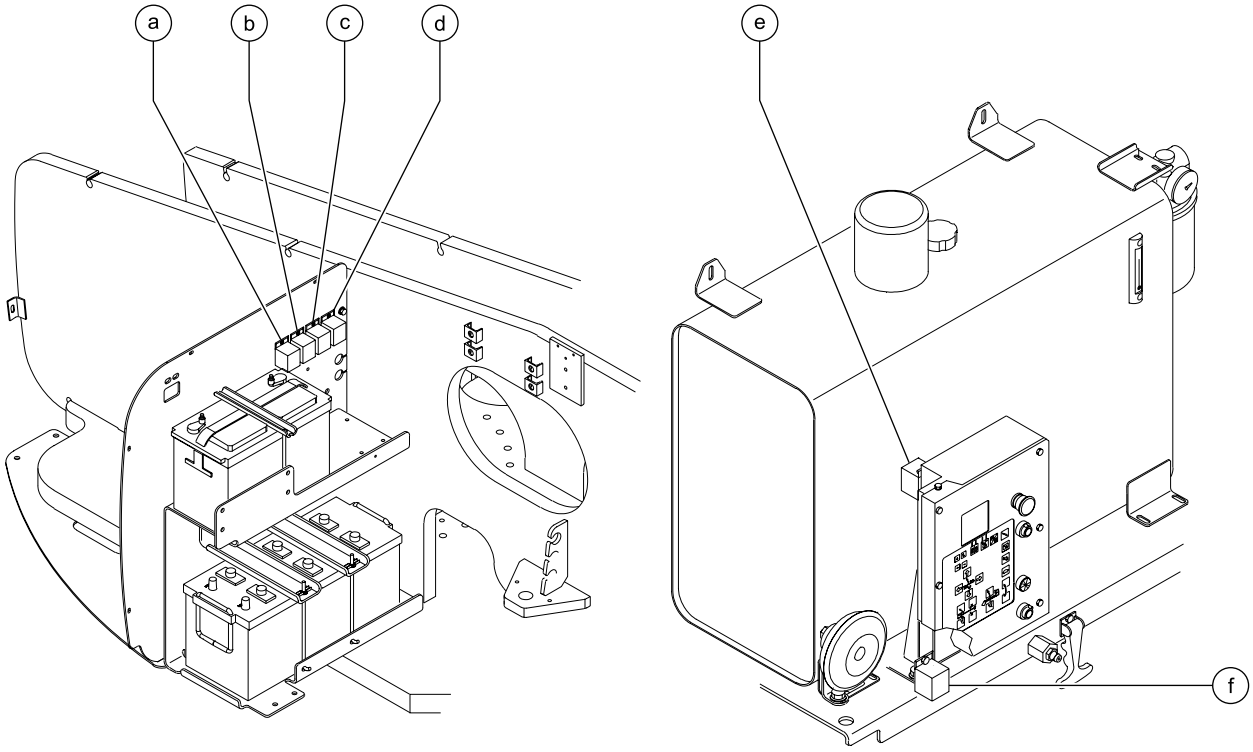

120 ft / 36.6 m
110 ft / 33.5 m
100 ft / 30.5 m
90 ft / 27.4 m
80 ft / 24.4 m
70 ft / 21.3 m
60 ft / 18.3 m
50 ft / 15.2 m
40 ft / 12.2 m
30 ft / 9.1 m
20 ft / 6.1 m
10 ft / 3 m
0 ft / 0 m
LSB8AS 50°
LSB13AO 53°
LSB4ES 75.5 ft (23 m)
LSB3EO 75 ft (22.9 m)
LSB7DS 11°
LSB1DO 10°
LSB3RS 3.5 ft (1.1 m)
LSB3RO 3 ft (0.9 m)
LSB14AO 68°
LSB9AS 65°
LSB2RO 102 ft (31.1 m)
LSB4EO 100 ft (30.5 m)
LSB2RS 101 ft (30.8 m)
LSB13AO 53°
LSB8AS 50°
LSB3EO 75 ft (22.9 m)
LSB4ES 75.5 ft (23 m)
LSB1DO 10°
LSB7DS 11°
LSB3RO 3 ft (0.9 m)
LSB3RS 3.5 ft (1.1 m)

S-100 & S-105 Models (S-100 shown)

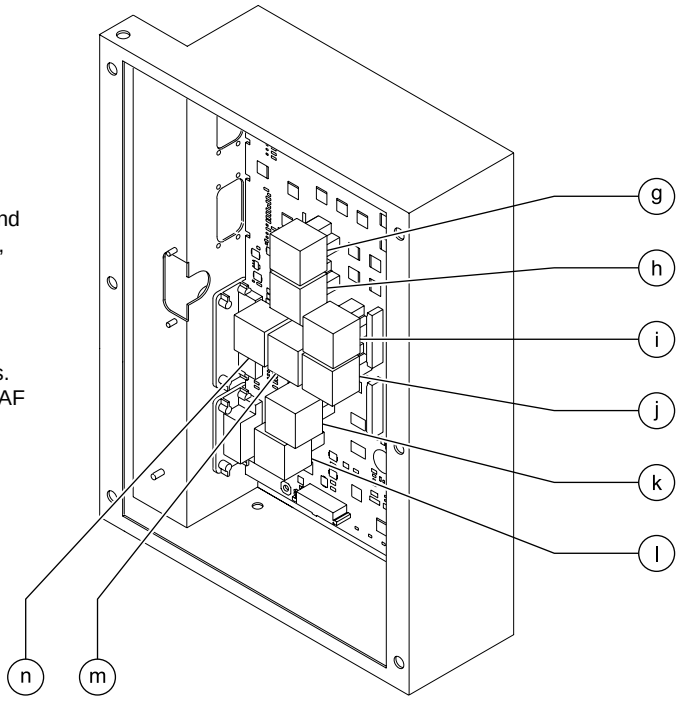
S-120 & S-125 Models (S-120 shown)



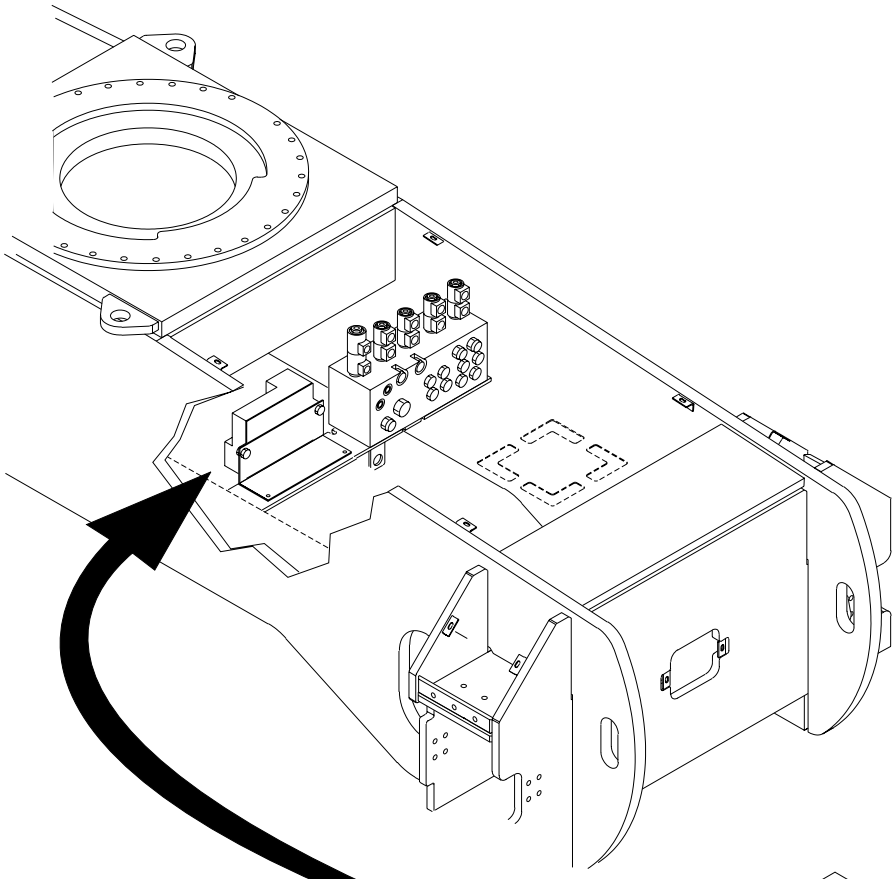
Relay Layout

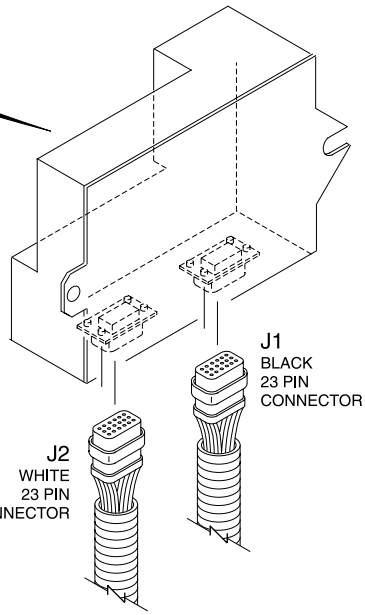


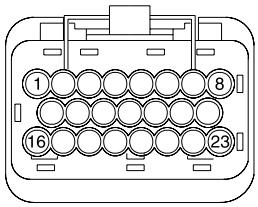
a Fuel solenoid relay (Deutz models only).
b Oil cooler relay (Deutz models only).
c Engine cold start relay.
d Starter relay.
e Horn relay.
f Flashing beacon relay.
g CR17 relay (K7) - powers C35RPM circuit (Hi/low solenoid).
h CR16 relay (K8) - powers C34SA circuit (Engine cold start).
i CR12 relay (K4) - powers primary valves 1 and 2, ignition, glow plug, starter relay, generator, and the boom retract, multifunction and platform rotate valve coils.
j CR14 relay (K2) - powers P7R or S56PRV circuit including the auxiliary valve, boom extend/retract and turntable rotate valve coils.
k CR10 relay (K6) - powers C21IGN and C107AF circuits (Fuel on/off solenoid and alternator field).
l CR15 relay (K1) - powers P22R or C03PBF circuit (Boom up/down valve coil).
m CR13 relay (K5) - powers P_7 and throttle relay.
n CR11 relay (K3) - powers P-6R2 or P54ENG circuits.



Drive Chassis Controller Pin Legend







PIN NUMBERING FOR
23 PIN
CONNECTORS

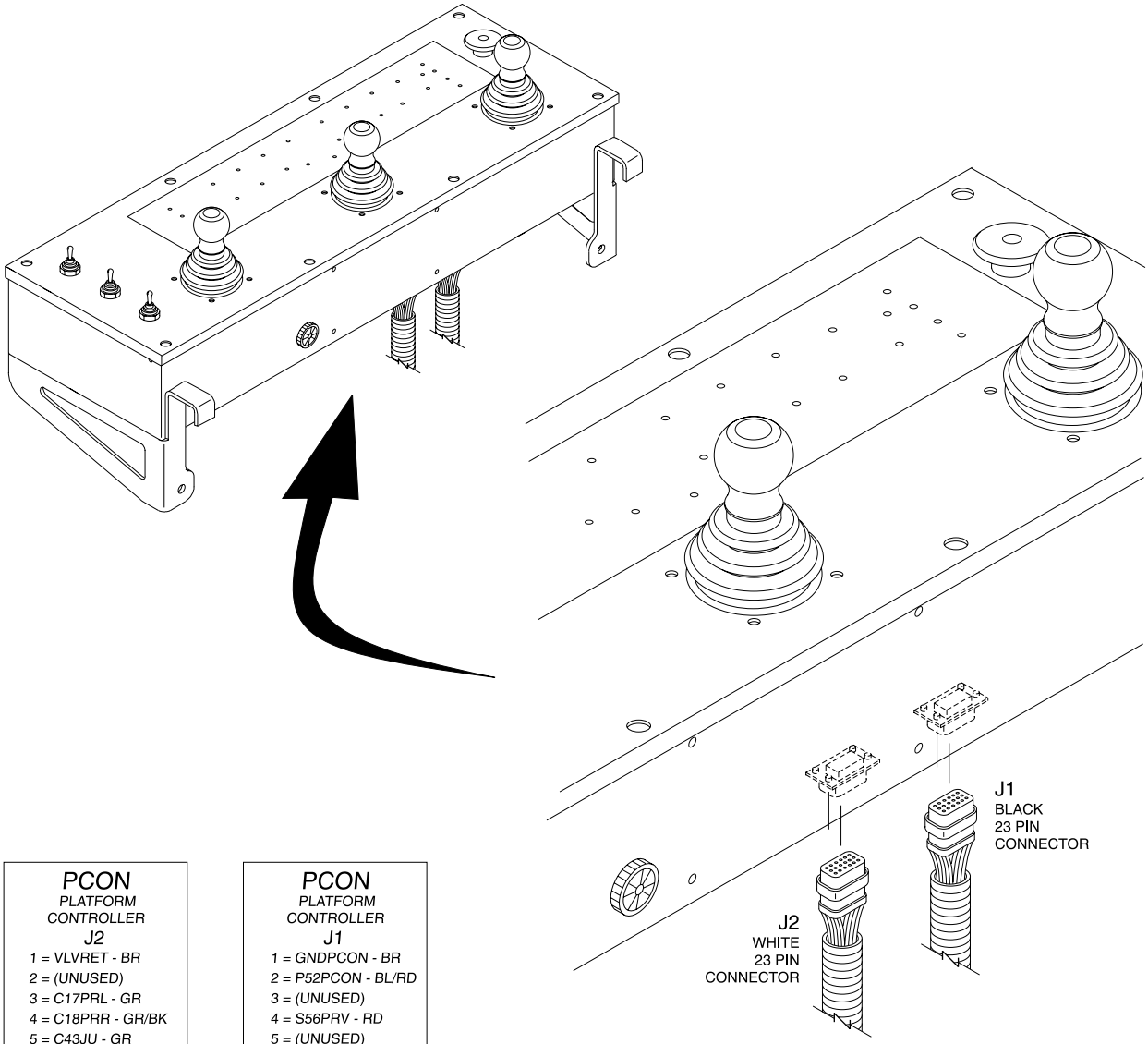
DCON
DRIVE CHASSIS CONTROLLER
J2

1 = VLVRET - BR
2 = V61AXRT - GR
3 = V60AXEX - GR/WH
4 = V29MS - RD/WH
5 = (UNUSED)
6 = V52AFV - BL/RD
7 = V52REV - BL/RD
8 = V36RRS - BL
9 = V37RRS - BL/BK
10 = C111RRS - OR
11 = C111LRS - OR
12 = C111RFS - OR
13 = C111LFS - OR
14 = VLVRET2 - BR
15 = V32BRK - WH/RD
16 = V36LRS - BL
17 = V37LRS - BL/BK
18 = V36RFS - BL
19 = P110RT - BK
20 = P109ANG - GR/WH
21 = V37RFS - BL/BK
22 = V36LFS - BL
23 = V37LFS - BL/BK

DCON
DRIVE CHASSIS CONTROLLER
J1

1 = GND-DCON - BR
2 = P21DCON - WH
3 = P53LS - RD
4 = (UNUSED)
5 = S56PRV - RD
6 = C61AXRT - GR
7 = (UNUSED)
8 = AXLE RET GND
9 = C61LS - GR
10 = D80SHLD
11 = (UNUSED)
12 = (UNUSED)
13 = (UNUSED)
14 = (UNUSED)
15 = C61LS(A) - GR
16 = (UNUSED)
17 = D81CAN(-) - GR
18 = D82CAN(+) - YL
19 = (UNUSED)
20 = (UNUSED)
21 = (UNUSED)
22 = (UNUSED)
23 = P61LS(A) - GR

Platform Controller Pin Legend

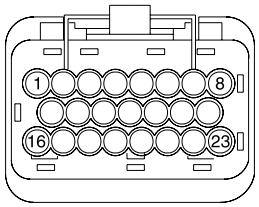


PCON
PLATFORM CONTROLLER
J2

1 = VLVRET - BR
2 = (UNUSED)
3 = C17PRL - GR
4 = C18PRR - GR/BK
5 = C43JU - GR
6 = C44JD - GR/BK
7 = C14PLU - OR
8 = C15PLD - OR/BK
9 = (UNUSED)
10 = R90PXS - RD/BK
11 = C90PXS - RD/BK
12 = RET94LDS - WH
13 = C94LDS - WH
14 = R94LDS - WH
15 = C88PTS - RD/BK
16 = R56PTS - RD
17 = C56PTS - RD
18 = (UNUSED)
19 = PLATRET - BR
20 = C84TAY - GR/BK
21 = P85PTS - GR
22 = PTSRET - BR
23 = P87PTS - RD

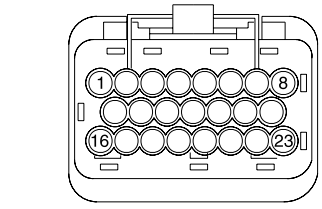
PCON
PLATFORM CONTROLLER
J1

1 = GNDPCON - BR
2 = P52PCON - BL/RD
3 = (UNUSED)
4 = S56PRV - RD
5 = (UNUSED)
6 = (UNUSED)
7 = P56PRV - RD
8 = (UNUSED)
9 = (UNUSED)
10 = D80SHLD
11 = (UNUSED)
12 = (UNUSED)
13 = (UNUSED)
14 = (UNUSED)
15 = C47OUT - WH/BK
16 = C46HN - WH
17 = D81CAN(-) - GR
18 = D82CAN(+) - YL
19 = (UNUSED)
20 = (UNUSED)
21 = (UNUSED)
22 = (UNUSED)
23 = P23PCON - BK

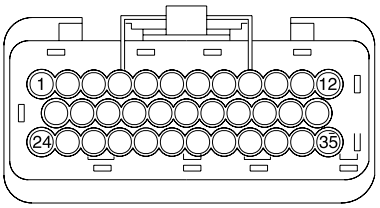


PIN NUMBERING FOR
23 PIN
CONNECTORS

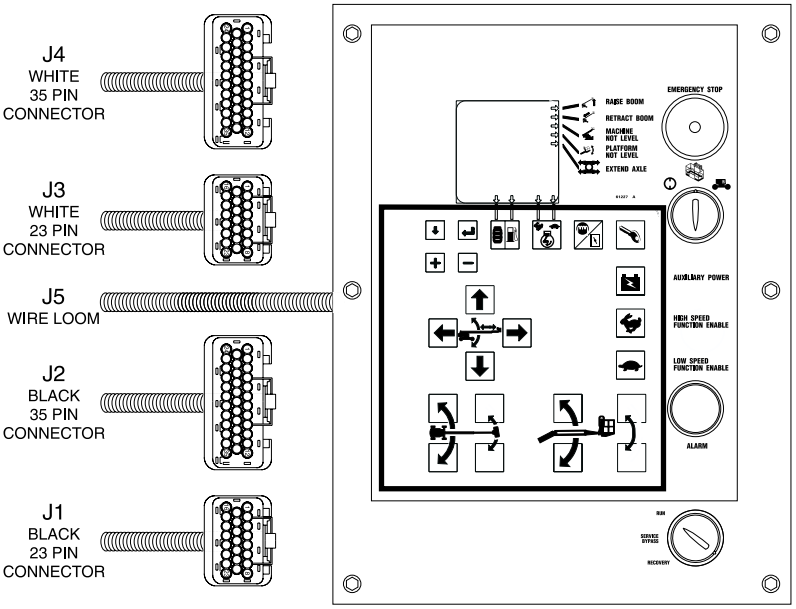
Turntable Controller Pin Legend



PIN NUMBERING FOR
23 PIN
CONNECTORS



PIN NUMBERING FOR
35 PIN
CONNECTORS



TCON
TURNTABLE CONTROLLER
J1

1 = GNDPCON - BR
2 = P52PCON - BL/RD
3 = C46HN - WH
4 = C47OUT - WH/BK
5 = P23PCON - BK
6 = S56PRV - RD
7 = P56PRV - RD
8 = R48LP - WH/RD
9 = R49LP - WH/BK
10 = D80SHLD
11 = (UNUSED)
12 = (UNUSED)
13 = (UNUSED)
14 = (UNUSED)
15 = P97TET - BK
16 = (UNUSED)
17 = D81CAN(-) - GR
18 = D82CAN(+) - YL
19 = (UNUSED)
20 = TETFUNC - WH
21 = TETGND - BR
22 = P96TET - RD
23 = P95TET - OR

TCON
TURNTABLE CONTROLLER
J2
(S-120 & S-125 MODELS)

1 = GNDDCON - BR
2 = P21DCON - RD
3 = P53LS - WH/BK
4 = P54ENG - BK/WH
5 = P56PRV - RD
6 = P57PBD - RD/WH
7 = P58LS - RD/BK
8 = S59CNBK - GR/WH
9 = C60AXEX - GR/WH
10 = C61AXRT - GR
11 = S62BSTO - OR
12 = P63LS - OR/RD
13 = C64LS - OR/BL
14 = C65LOFL - BL/WH
15 = C66DREN - BL
16 = (UNUSED)
17 = C68PBD - RD
18 = C69PBE - BK
19 = C70PBE - BL/WH
20 = C71PBE - BL/BK
21 = (UNUSED)
22 = (UNUSED)
23 = V74PRLO - RD
24 = V75PRLO - RD/WH
25 = SNSR GND - BR
26 = (UNUSED)
27 = G119SR - BL
28 = C76PBE - BL
29 = C77AS - WH
30 = C78PS - WH/BK
31 = (UNUSED)
32 = (UNUSED)
33 = (UNUSED)
34 = (UNUSED)
35 = VLVRET1 - BR

TCON
TURNTABLE CONTROLLER
J2
(S-100 & S-105 MODELS)

1 = GNDDCON - BR
2 = P21DCON - RD
3 = P53LS - WH/BK
4 = P54ENG - BK/WH
5 = P56PRV - RD
6 = P57PBD - RD/WH
7 = P58LS - RD/BK
8 = S59CNBK - GR/WH
9 = C60AXEX - GR/WH
10 = C61AXRT - GR
11 = S62BSTO - OR
12 = P63LS - OR/RD
13 = C64LS - OR/BL
14 = C65LOFL - BL/WH
15 = C66DREN - BL
16 = (UNUSED)
17 = C68PBD - RD
18 = C69PBE - BK
19 = C70PBE - BL/WH
20 = C71PBE - BL/BK
21 = (UNUSED)
22 = (UNUSED)
23 = V74PRLO - RD
24 = V75PRLO - RD/WH
25 = SNSR GND - BR
26 = (UNUSED)
27 = G119SR - BL
28 = (UNUSED)
29 = C77AS - WH
30 = (UNUSED)
31 = (UNUSED)
32 = (UNUSED)
33 = (UNUSED)
34 = (UNUSED)
35 = VLVRET1 - BR

TCON
TURNTABLE CONTROLLER
J3

1 = VLVRET1 - BR
2 = C35RPM - BK/RD
3 = C21IGN - WH
4 = C34SA - BK/WH
5 = V30FWD - WH
6 = V31REV - WH/BK
7 = C46HRN - WH
8 = (UNUSED)
9 = C33STR - BK
10 = (UNUSED)
11 = (UNUSED)
12 = C25PSR - WH/BK
13 = C26TSR - WH/RD
14 = RET85TTSR - GR
15 = P85TTSR - GR
16 = VLVRET2 - BR
17 = (UNUSED)
18 = C41RPM - OR/BK
19 = C107AF - RD
20 = C83TAX - GR/WH
21 = C84TAY - GR/BK
22 = C45GEN - GR/WH
23 = VLVRET3 - BR

TCON
TURNTABLE CONTROLLER
J5

1 = BATVLV - RD
2 = BATGND - BR
3 = BATGND - BR
4 = BATECU - RD

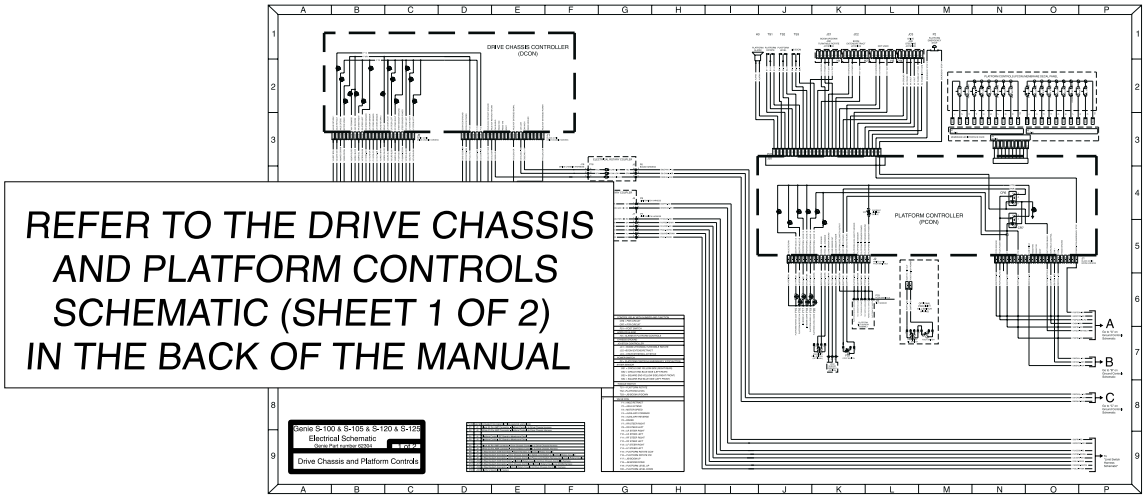
TCON
TURNTABLE CONTROLLER
J4

1 = VLVRET4 - BR
2 = C03PBF - RD/WH
3 = C09PERF - BK/RD
4 = C06TRF - WH/RD
5 = (UNUSED)
6 = (UNUSED)
7 = CO1PBU - RD
8 = C02PBD - RD/BK
9 = C07PBE - BK
10 = C08PBR - BK/WH
11 = (UNUSED)
12 = (UNUSED)
13 = (UNUSED)
14 = VLVRET5 - BR
15 = (UNUSED)
16 = (UNUSED)
17 = C15LS - RD/BK
18 = C14LS - BK/RD
19 = (UNUSED)
20 = (UNUSED)
21 = (UNUSED)
22 = (UNUSED)
23 = C113MFV - OR/RD
24 = (UNUSED)
25 = C04TRL - WH
26 = C05TRR - WH/BK
27 = VLVRTN7 - BR
28 = (UNUSED)
29 = (UNUSED)
30 = VLVRET6 - BR
31 = (UNUSED)
32 = C27AUX - RD
33 = (UNUSED)
34 = (UNUSED)
35 = DRIVE LAMP

Electrical Schematic Legend - Drive Chassis (DCON) and Platform Controls (PCON)

CR	CONTROL RELAY WITH NUMBER AND FUNCTION
	CR6 = P6R CIRCUIT
	CR7 = P7R CIRCUIT
FS	FS1 = FOOT SWITCH
H	HORN OR ALARM
	H3 = ALARM AT PLATFORM CONTROLS
GND	CHASSIS GROUND
JC	JOYSTICK CONTROLLER
	JC1 = BOOM UP/DOWN& TURNTABLE ROTATE
	JC2 =BOOM EXTEND/RETRACT
	JC3 = DRIVE/STEERING JOYSTICK
P	POWER SWITCH
	P2 = PLATFORM CONTROLS EMERGENCY STOP BUTTON
SS	STEER SENSOR
	SS1 = CIRCLE END YELLOW SIDE (RIGHT REAR)
	SS2 = CIRCLE END BLUE SIDE (LEFT REAR)
	SS3 = SQUARE END YELLOW SIDE (RIGHT FRONT)
	SS4 = SQUARE END BLUE SIDE (LEFT FRONT)
TS	TOGGLE SWITCH
	TS1 = PLATFORM ROTATE
	TS2 =PLATFORM LEVEL
	TS3 = JIB BOOM UP/DOWN
Y	VALVE COIL
	Y1 = AXLE RETRACT
	Y2 = AXLE EXTEND
	Y3 = MOTOR SPEED
	Y4 = AUXILIARY FORWARD
	Y5 = AUXILIARY REVERSE
	Y6 = BRAKE
	Y7 = RR STEER RIGHT
	Y8 = RR STEER LEFT
	Y9 = LR STEER RIGHT
	Y10 = LR STEER LEFT
	Y11 = RF STEER RIGHT
	Y12 = RF STEER LEFT
	Y13 = LF STEER RIGHT
	Y14 = LF STEER LEFT
	Y15 = PLATFORM ROTATE CCW
	Y16 = PLATFORM ROTATE CW
	Y17 = JIB BOOM UP
	Y18 = JIB BOOM DOWN
	Y19 = PLATFORM LEVEL UP
	Y20 = PLATFORM LEVEL DOWN

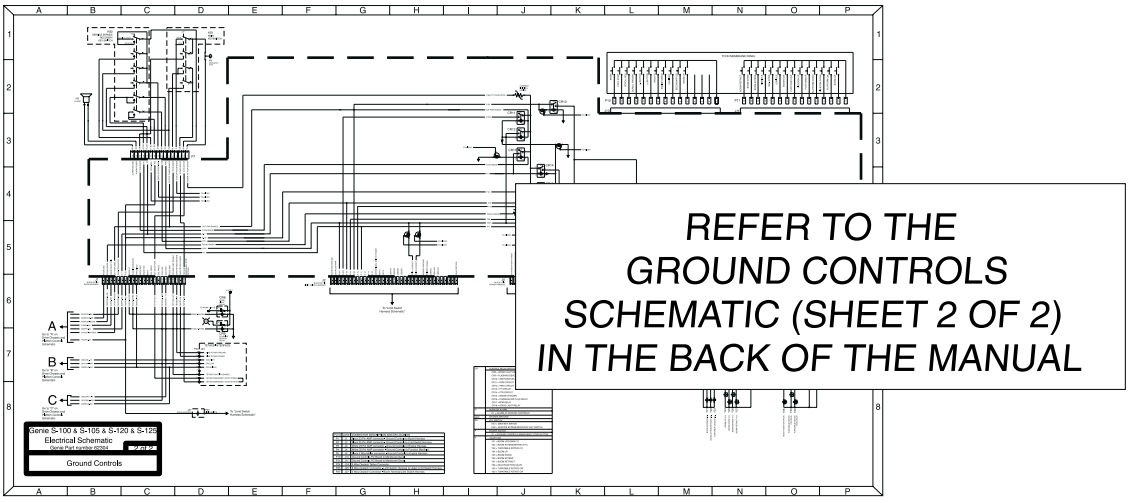
PLUG	JACK	CONNECTOR DESCRIPTION AND/OR LOCATION
P1	J1	Black 23 Pin AMP Connector - Platform Controls to Drive Chassis Harness
P2	J2	White 23 Pin AMP Connector - Platform Controls to Drive Chassis Harness
P1	J1	Platform Controls PC Board to Membrane Decal
P2	J2	Platform Controls PC Board to Membrane Decal
P1	J1	Black 23 Pin AMP connector - Drive Chassis Controller to Drive Chassis Harness
P2	J2	White 23 Pin AMP connector - Drive Chassis Controller to Drive Chassis Harness
P6	J6	3 Way Deutsch CAN Connector - Boom Harness to Electrical Rotary Coupler
P7	J7	6 Way Deutsch Connector - Drive Chassis Controller Safety Limit Switch to Electrical Rotary Coupler
P8	J8	2 Way Deutsch Connector - Drive Chassis Controller Power Limit Switch Harness to Electrical Rotary Coupler
P16	J16	3 Way Deutsch CAN Connector - Electrical Rotary Coupler to Drive Chassis Controller Harness
P17	J17	6 Way Deutsch Connector - Drive Chassis Controller Electrical Rotary Coupler to DCON Harness
P17	J17	6 Way Deutsch Connector - Drive Chassis Controller Electrical Rotary Coupler to DCON Harness
P18	J18	2 Way Deutsch Connector - Electrical Rotary Coupler to Drive Chassis Controller Harness
P33	J33	Platform Manifold/Tilt Sensor


REFER TO THE DRIVE CHASSIS AND PLATFORM CONTROLS SCHEMATIC (SHEET 1 OF 2) IN THE BACK OF THE MANUAL
DRIVE CHASSIS CONTROLLER (DCON)
PLATFORM CONTROLLER (PCON)
Genie S-100 & S-105 & S-120 & S-125
Electrical Schematic
Drive Chassis and Platform Controls

Electrical Schematic Legend - Ground Controls (TCON)

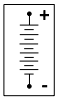
CR	*CONTROL RELAY WITH NUMBER AND FUNCTION*
	CR8 = WORK LIGHT RELAY
	CR9 = FLASHING BEACON RELAY
	CR10 = IGNITION/FUEL/ALTERNATOR FIELD
	CR11 = P6R2 CIRCUIT
	CR12 = P6R1 CIRCUIT
	CR13 = P7 CIRCUIT
	CR14 = P7R CIRCUIT
	CR15 = BOOM UP/DOWN
	CR16 = CHOKE/GLOW PLUG RELAY
	CR17 =RPM RELAY
	CR18 = DRIVE LIGHT RELAY
H	*HORN OR ALARM*
	H1 = ALARM AT GROUND CONTROLS
GND	*CHASSIS GROUND*
KS	*KEY SWITCH*
	KS1 = MAIN KEY SWITCH
	KS2 = SERVICE BYPASS/RECOVERY KEY SWITCH
P	*POWER SWITCH*
	P1 = GROUND CONTROLS EMERGENCY STOP BUTTON
Y	*VALVE COIL*
	Y21 = BOOM UP/DOWN F.C.
	Y22 = BOOM EXTEND/RETRACT F.C.
	Y23 = TURNTABLE ROTATE F.C.
	Y24 = BOOM UP
	Y25 = BOOM DOWN
	Y26 = BOOM EXTEND
	Y27 = BOOM RETRACT
	Y28 = MULTIFUNCTION VALVE
	Y29 = TURNTABLE ROTATE CW
	Y30 = TURNTABLE ROTATE CW

PLUG	*JACK*	*CONNECTOR DESCRIPTION AND/OR LOCATION*
P1	J1	Black 23 Pin AMP Connector - Ground Controls to Boom Harness
P2	J2	Black 35 Pin AMP Connector - Ground Controls to Limit Switch Harness
P3	J3	White 23 Pin AMP connector - Ground Controls to Engine Harness
P4	J4	White 35 Pin AMP connector - Ground Controls to Function Manifold
P5	J5	Black 4 Way Molex connector - Ground Controls to Engine Harness
P10	J10	Ground Controls PC Board to Membrane Decal
P11	J11	Ground Controls PC Board to Membrane Decal
P24	J24	9 Way Deutsch Tether Connector
P25	J25	8 Way Deutsch Connector - Limit Switch Harness to Upper Limit Switch Harness
P27	J27	2 Way Deutsch Connector - Boom Harness/Limit Switch Harness



REFER TO THE GROUND CONTROLS SCHEMATIC (SHEET 2 OF 2) IN THE BACK OF THE MANUAL

Electrical Symbols Legend

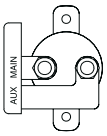


Battery

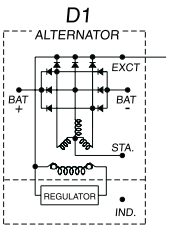
Chassis ground

Fuse
with amperage

Circuit breaker
with amperage



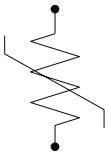
Battery separator



ALTERNATOR

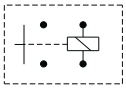
Coil

Diode



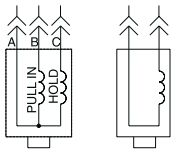
Current limiting
device

Relay

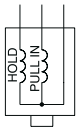


Power relay

Horn

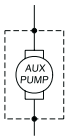


Fuel solenoid

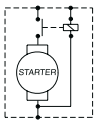


HIGH/LOW SPEED
SOLENOID

Auxiliary fan

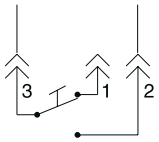


Auxiliary pump

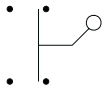


Starter motor

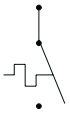
Engine cold
start ignitor



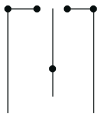
Foot switch



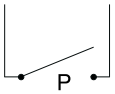
Fan belt
break switch



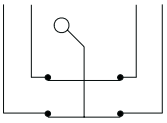
Temperature switch



Toggle switch

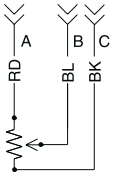


Proximity switch

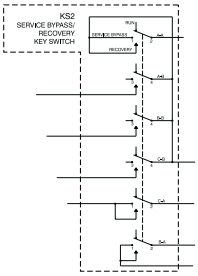


Proximity
kill switch

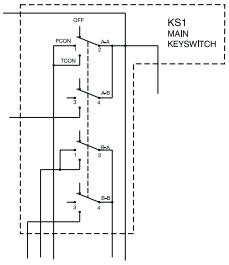
Sending unit



Steer sensor

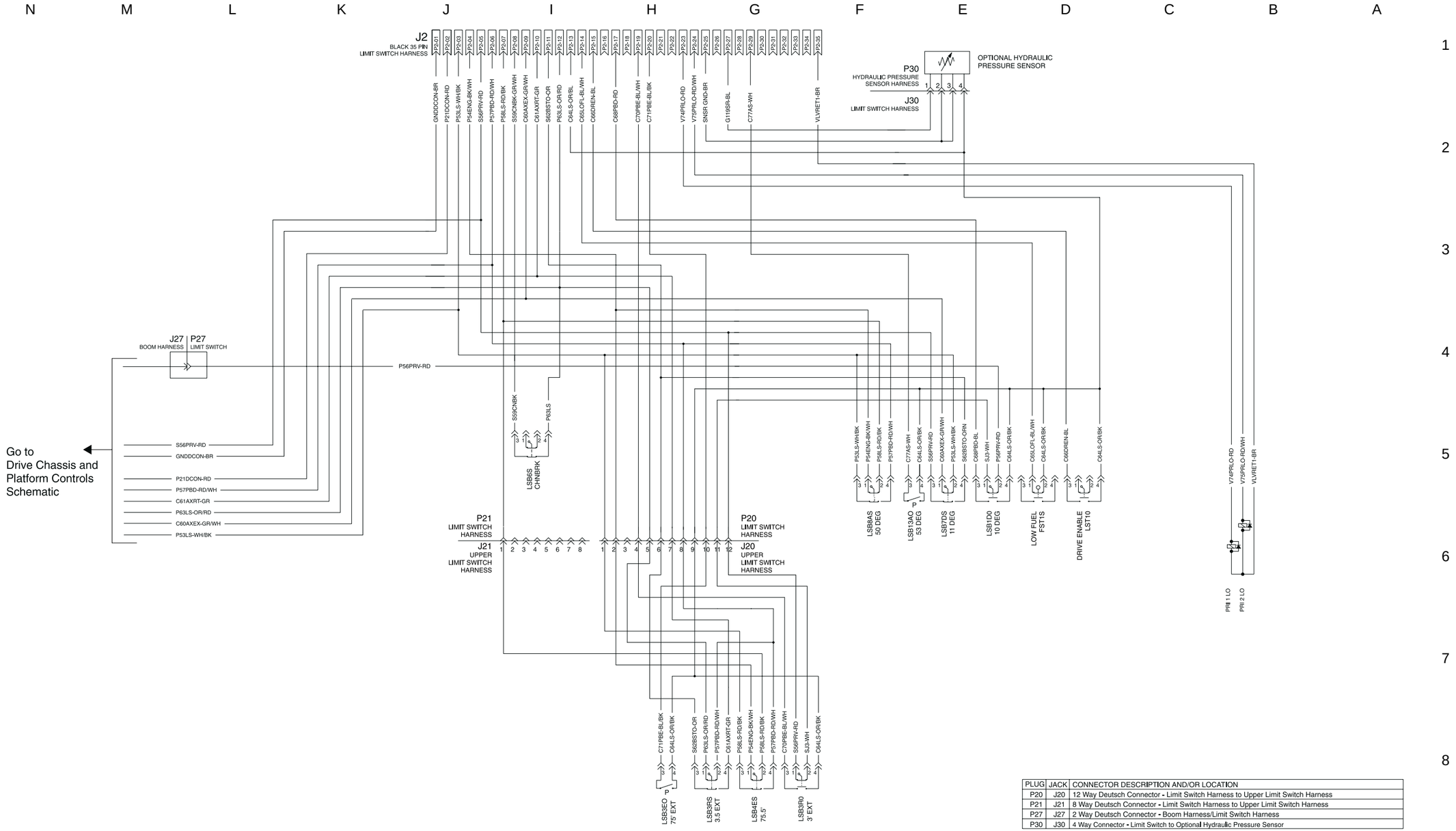


Service bypass/recovery
key switch



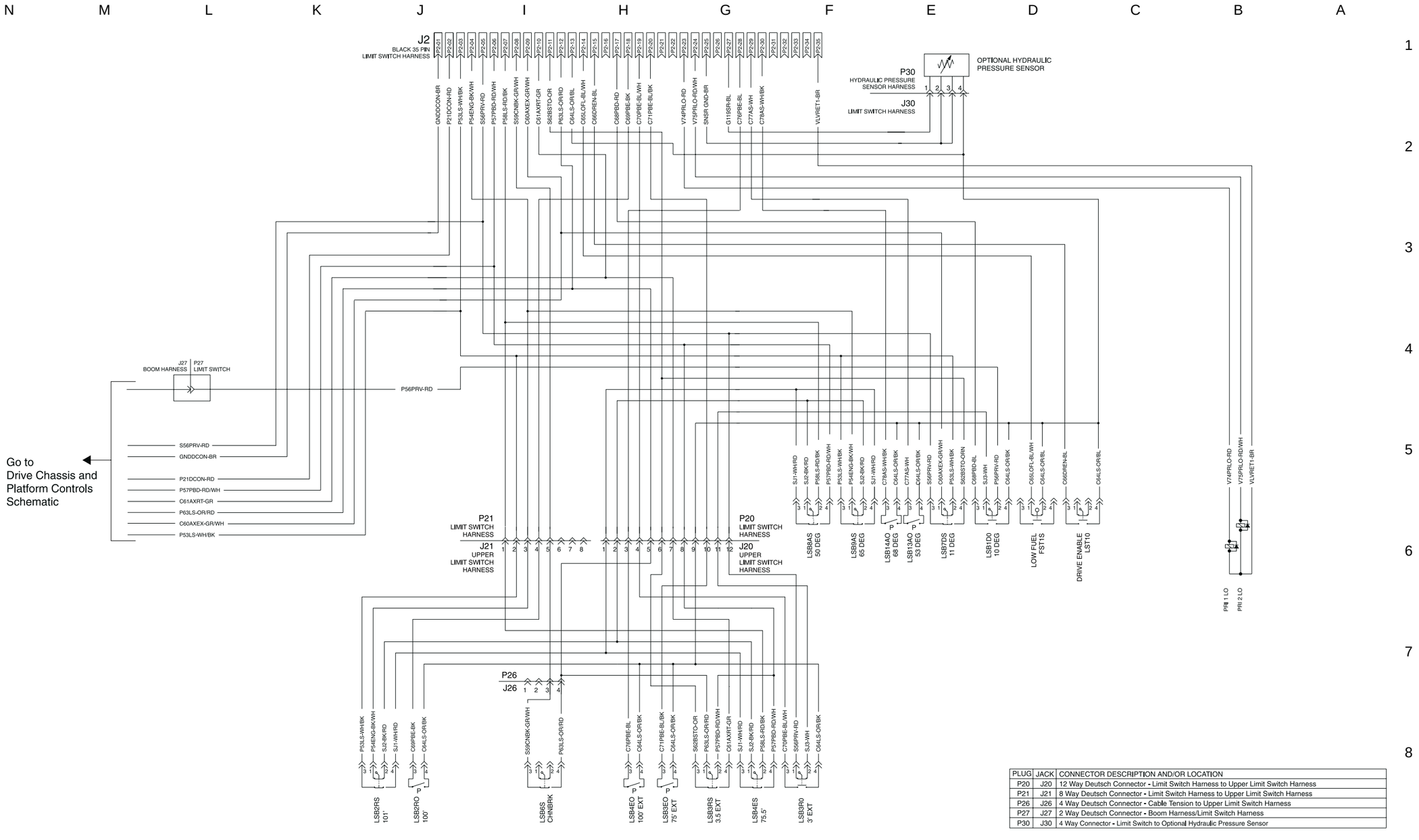
Main key switch

Limit Switch Harness Schematic, S-100 & S-105 Models



PLUG	JACK	CONNECTOR DESCRIPTION AND/OR LOCATION
P20	J20	12 Way Deutsch Connector - Limit Switch Harness to Upper Limit Switch Harness
P21	J21	8 Way Deutsch Connector - Limit Switch Harness to Upper Limit Switch Harness
P27	J27	2 Way Deutsch Connector - Boom Harness/Limit Switch Harness
P30	J30	4 Way Connector - Limit Switch to Optional Hydraulic Pressure Sensor

Limit Switch Harness Schematic, S-120 & S-125 Models



PLUG	JACK	CONNECTOR DESCRIPTION AND/OR LOCATION
P20	J20	12 Way Deutsch Connector - Limit Switch Harness to Upper Limit Switch Harness
P21	J21	8 Way Deutsch Connector - Limit Switch Harness to Upper Limit Switch Harness
P26	J26	4 Way Deutsch Connector - Cable Tension to Upper Limit Switch Harness
P27	J27	2 Way Deutsch Connector - Boom Harness/Limit Switch Harness
P30	J30	4 Way Connector - Limit Switch to Optional Hydraulic Pressure Sensor

Safety Circuit Schematic